

Chilton's

MOTOR

AGE

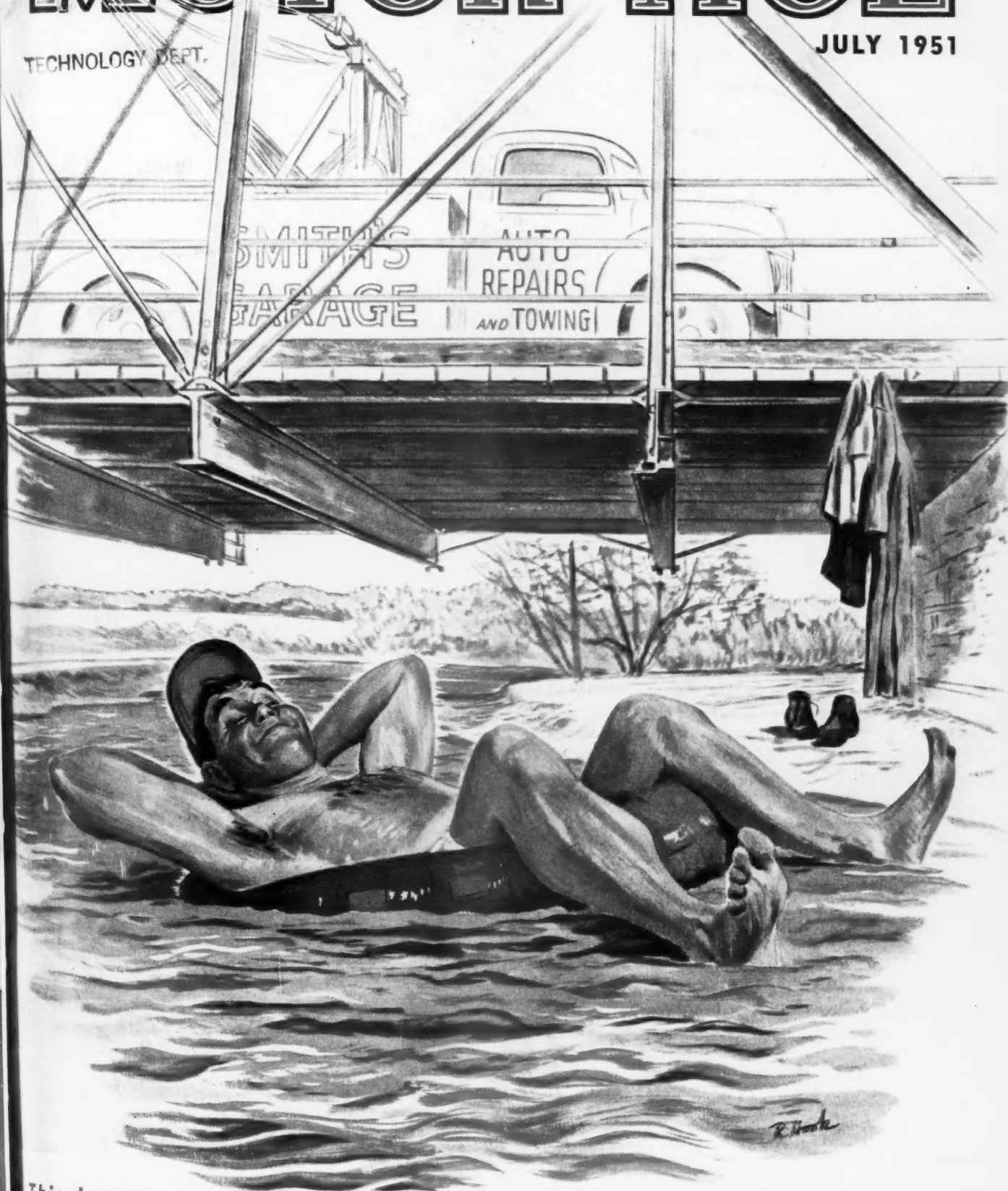
TECHNOLOGY DEPT.

PUBLIC LIBRARY

JUL 24 1951

DETROIT

JULY 1951



This Issue:

Overhauling Chrysler's Hydraulic Transmission



MR. W. D. VOID, an average car owner who needs engine repairs. His unpractical mind, however, is never on such things—only on pleasant dreams. The house would have to fall on him to get a practical point across. But you can...

Sell him..

WITH THE HASTINGS "CONVINCER"

This powerful customer-convincing book will jolt Mr. Void—and all car owners like him—right out of their daydreams.

In simple, dramatic fashion it calls for action now . . . for necessary repairs *before* destructive engine wear sets in, *before* his wallet has to take a tremendous blow. It forcefully points out, with pictures: "The more you delay, the more you pay."

Show the big "Convincer" to customers in your shop. Mail the small "Convincer" booklets to your list of prospects. They will sell tune-ups, repair jobs and major overhauls for you. They're an important part of Hastings nationally successful "Danger Zone" program.

HASTINGS MANUFACTURING CO. • HASTINGS, MICH. • HASTINGS LTD., TORONTO
PISTON RINGS • SPARK PLUGS • OIL FILTERS • CASITE • drouit

HASTINGS

STEEL-VENT PISTON RINGS

TOUGH on Oil-Pumping

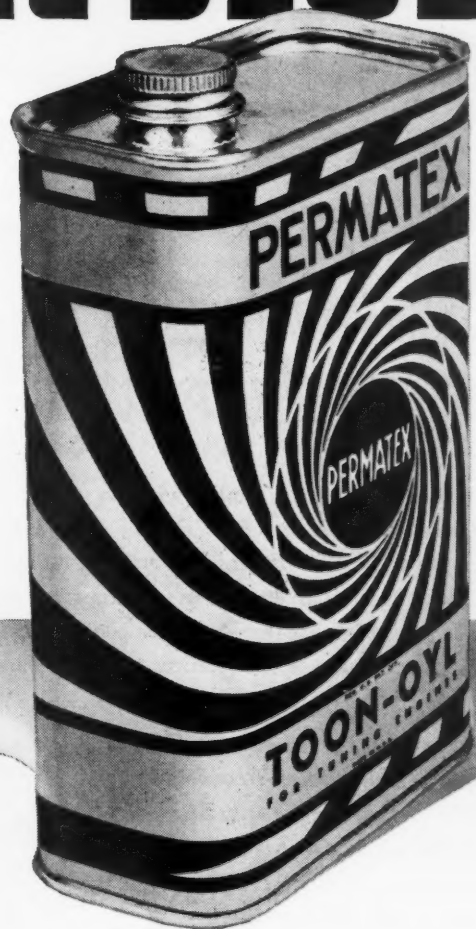
GENTLE on Cylinder Walls



Here's Your Direct Mail Program

Get these Danger Zone Booklets into the homes of your prospects. These colorful 6" by 9" versions of the big "Convincer" Book are a powerful sales tool. Envelopes are furnished... postage is inexpensive. Put the 16-page booklets to work—they'll pay off for you!

PREVENT ACID-ACTION and SLUDGE



Extensive research has proven that acid action causes more engine wear than friction. Use Permatex Toon-Oyl to neutralize acid and remove sludge and gum binders from all working parts. Permatex Toon-Oyl keeps lubricating oils free-flowing in coldest weather. Add one quart of Permatex Toon-Oyl to the crankcase.

When you talk Permatex...you're talking Quality!

PERMATEX COMPANY, INC., BROOKLYN 35, N. Y.

30 million messages daily ➡



*Millions of motorists stop
where they see this sign*

96 million
readers ➡



FOLKS believe in signs. That's why so many stop at Texaco Dealers' *Registered Rest Rooms*. And that's why so many more will stop after this advertising makes its impression...with more than 30 million messages now delivered daily on big poster boards from coast to coast...upon more than 96 million readers of the leading national magazines.

Actually Texaco Dealers have *two* powerful signs that are terrific *stoppers*, the familiar TEXACO sign and the *Registered Rest Room* sign. What's more... *they are the only two service station signs in America that greet motorists in all 48 States ...two more good reasons why*

*TEXACO DEALERS
are such busy dealers!*



**A Great Line-up for
TEXACO DEALERS**

Sky Chief and **FIRE-CHIEF** GASOLINES

HAVOLINE and TEXACO MOTOR OILS • MARFAK CHASSIS
LUBRICATION • P T ANTI-FREEZE • REGISTERED REST ROOMS

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

For THE AUTOMOTIVE SERVICE INDUSTRY

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Vol. LXX, No. 8

July, 1951

In This Issue..

Newscoop	37
News scene	40
Report to Our Readers.....by Frank P. Tighe	41
Car Dealer Clinic.....by James Mason	42
Overhauling Chrysler's Hydraulic Transmission..by Jack Montgomery	44
A Sale Under Every Hood.....	47
Pop Gets a Gear Jumper.....by Charles M. Kenyon	48
New Products Show Window.....	50
Service Suggestions from the Factories.....by Wm. H. Lutton	55
Reconditioning the Ford Water Pump.....by Jack Montgomery	56
Care Saves Cranky Car.....	58
Keep Your Customers' Cars on Record.....by Paul B. Divver	60
Price, Weight and Body Table.....	62
Engine Specifications	64
Shop Kinks	66
Readers Clearing House	70
Calendar of Coming Events	144
Advertisers Index	164



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Twins in QUALITY ...and in RESULTS!

The term "Original Equipment Part" has a special meaning when used with Delco-Remy products—for Delco-Remy replacement parts are *identical* in quality with the original parts used on Delco-Remy-equipped vehicles. They are carefully built to maintain the proper balance

in Delco-Remy electrical systems so important to long life and good performance. Because they are identical in quality you can expect identical results.

Buy Delco-Remy replacement parts from your United Motors distributor.



DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

New Life, Vim, Vigor and Vitality for Tired and Worn Motors!!!

Read what MOOG #5-560 Piston Ring Sets are doing for automobiles in conditions due to deficiencies of Pep and Performance.

A 10-year-old car picks up speed: "I was tired, sluggish, run down — felt like I was out of gas — afraid to tackle a hill. I gave Moog's 5-560 Ring Set a try. Now I run like a striped back ape."



A Texas 49'er is Saved:



"My boss wore me down to a nubbin between El Paso and Texarkana. I fell in with evil companions and started smoking and drinking oil. Just as I was about to

be traded in, my boss tried Moog's 5-560 Ring Set. Today I have stopped smoking and drinking. I go to church with the family every Sunday and once again am rolling along like new."

No more coughs for a '46 automobile: "I had developed a bad cough and it looked like Denver for me until I tried a set of Moog's 5-560 Full Power Rings. Today I'm as healthy as a horse and there's no danger of one replacing me either."



A '47 car Says Bye-by to Blow-by:



"For months I had a bad case of blow-by. Mechanics all over the country had checked over me, under me, inside me and around me. Finally an

old-time mechanic recommended Moog's 5-560 Piston Ring Set. My blow-by disappeared overnight, my strength returned and I am now entered in the Indianapolis Speedway trials."

MOOG PISTON RING SET No. **5-560**

for 1940-50 BUICKS

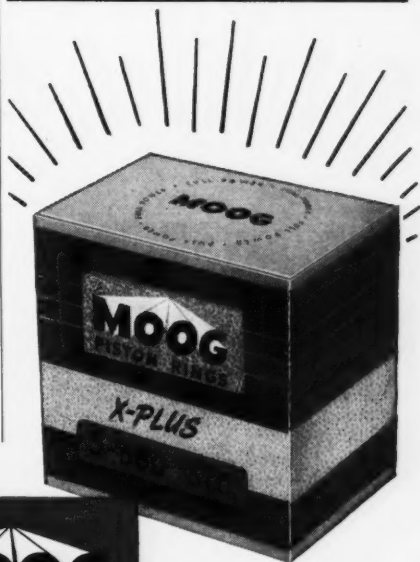
1940-49 Buick

40 Special

50 Super

1950 Buick

40 Special



**For a FULL POWER Motor
TRY A SET TODAY!**



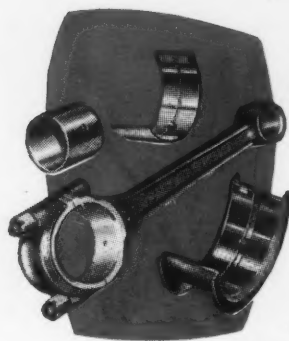
MOOG INDUSTRIES INC.

6650 EASTON AVE.

ST. LOUIS 14, MO.

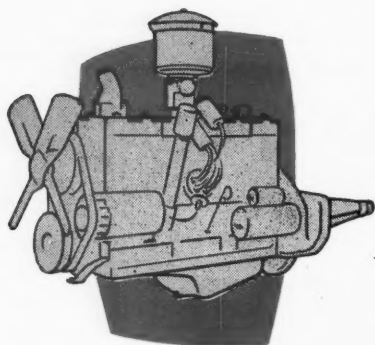
Chilton's MOTOR AGE, JULY, 1951

For engine bearings



top quality...to do the best

engine



reconditioning

...look for this



trade-

mark...and the red-and-black

FEDERAL-MOGUL



package!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN

THE COMPLETE LINE—

MORE THAN 7000 ITEMS

• Engine Bearings (Main, Connecting Rod and Camshaft)
• Bushings • Connecting Rod Service—Reconditioned
Connecting Rods, Rebabbitted Connecting Rods •
Connecting Rod Bolts and Nuts • V-Seam Piston Pin
Bushings • Shims and Shim Stock

**You can get more Brake Work
when you sell**



Raybestos PG Brake Lining Sets last longer on today's vehicles, make faster stops in today's traffic. They are selected from linings made by 7 different processes. They are proving ground tested and factory-packaged in the right combination for each make and model of vehicle.

PG Ray-BOND for bonding

PG drilled for riveting



Raybestos PG Sets, packaged with this certificate, are featured month after month in the **SATURDAY EVENING POST**

Raybestos
Raybestos Division of RAYBESTOS-MANHATTAN, INC., Bridgeport, Conn.



AMERICA'S BIGGEST SELLING BRAKE LINING

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hoses • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

**Worried
about the effects
of **BLOCK
DISTORTION?****



Pedrick will get you off the hook!

Block distortion will be with us always—due in large measure to higher compressions and higher operating temperatures. Whatever its causes, it can be licked—and completely—by installation of the proper Pedrick Engineered Sets, with the expert help you get from your Pedrick jobber.

Pedrick Piston Rings are *conformable*—form an amazingly snug

fit in distorted or worn cylinders. Power and lubrication are kept where they belong. Give blow-by the go-by—prevent needless oil waste, get new engine compression—by installing the Pedrick Engineered Set specifically designed for the job, and guaranteed to do it.

Pedrick specialization in piston rings during the past 31 years has

paid off in millions of satisfactory money- and worry-saving installations. Have your Pedrick jobber specify and supply the correct Pedrick Engineered Set and be sure of a perfect, long-lasting job!

• • •

WILKENING MANUFACTURING CO.,
Philadelphia 42, Pa. *In Canada:*
Wilkening Manufacturing Co.
(Canada) Ltd., Toronto.

Pedrick[®]

"HEAT-SHAPED"

PISTON RINGS

FOR 31 YEARS, SUPPLIER OF PISTON RINGS TO
LEADING VEHICLE AND ENGINE MANUFACTURERS

"Serve the Customer's Needs —and he'll keep coming to you"

Says Stan

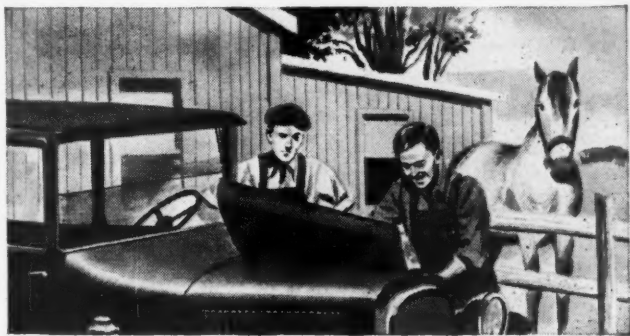
Reading time: 1 minute, 43 seconds

It was strictly a one-horse operation that set Stan on the road to success in the automobile business. At 13 he was forced by family circumstances to quit school and run the family farm.

"We had 140 acres of farm land, but only one horse and very little farm machinery," Stan recalls. "Our farm neighbors were better fixed in every way. But I had something they wanted and needed. I liked working on automobiles and got to be pretty good at it. I found that I could trade work on their cars for use of their farm machinery. They liked my work, kept giving me more jobs. It wasn't long before our farm was as well stocked and equipped as any in that area.

"Those farmers were my first customers. I discovered right then that when you serve the customer's needs, he'll keep coming to you — and send other customers, too."

Stan discovered also that his real interest was automobiles, not farming. A drought hastened his decision to



quit the plow. At 19 he acquired a part ownership of a repair shop. Then a dealer in a larger city persuaded Stan to become his service manager. His success there won him a place with a still larger concern. Soon he had saved enough to have a body repair shop of his own. His progress stamped him as a sound, resourceful business man.

Stan's thoughts were turning to an automobile dealership of his own and, being a veteran service man, he was thoroughly familiar with the value in automobiles engineered and built by Chrysler.

Stan's eagerness to accept greater responsibility, and his proved ability to manage, impressed Chrysler executives. He was chosen as best qualified for a Chrysler-Plymouth



franchise in a growing section of a midwestern city in 1945.

Stan is moving ahead. He has built a new, modern sales and service building. Recently he won Chrysler's Service Medal of Merit award, the first in his district.



"Selling and servicing automobiles is a good business, says Stan. "You are dealing in something that so many people want, need and enjoy. If you serve them well, you are on the road to success. The opportunities today are greater than ever before."

Write for our free booklet containing a number of these stories of accomplishments by enterprising men. Chrysler Corporation, 341 Massachusetts Ave., Highland Park 3, Mich.



Chrysler Corporation

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS
Fine Cars of Great Value

USE

Grey-Rock

BALANCED BRAKSETS

BALANCED TRUCKSETS

to balance performance with expectations...



BALANCED BRAKSETS
for passenger cars

BALANCED TRUCKSETS
for light and medium trucks

Consistently advertised in **POST** and **Country Gentleman**



Only



Grey-Rock

makes BALANCED BRAKSETS and TRUCKSETS

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

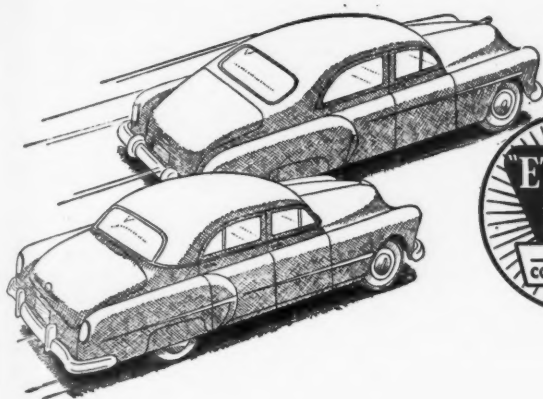


There's a big difference between a

bass ...and a... basset

—and there is a powerful difference, too,
between performance and “ETHYL” performance!

TRADE-MARK



Yes, there's a powerful difference between the performance of an engine using just gasoline and one using “Ethyl” gasoline. When you set the timing to take full advantage of “Ethyl” gasoline's higher antiknock quality, your customer gets “Ethyl” performance—more power, quicker starting, more mileage. And you get happier, more satisfied customers.

ETHYL CORPORATION, New York 17, New York

Other products sold under the “Ethyl” trade-mark: salt cake...ethylene dichloride...sodium (metallic)...chlorine (liquid)...oil soluble dye...benzene hexachloride (technical)

Chilton's MOTOR AGE, JULY, 1951



Leon Miller

GENERAL MANAGER
ECONOMY AUTO SUPPLY CO.
268 HALSEY ST., NEWARK, N.J.

"I TRY and keep my ear to the ground and be informed as to what our outside salesmen think of a line we're handling," says Leon Miller.

"For instance, I know they're glad they have the Auto-Lite Battery line to sell. First, because only 'Sta-ful' is backed by network television and radio, big circulation newspapers and mass magazine advertising; second, because our sales-

men have promotion and selling tools to help them do an outstanding job. and third, because Auto-Lite Batteries are original equipment on so many of America's finest cars and trucks.

"Then, too, our salesmen go for the special battery features like those in 'Sta-ful.' It gives them special talking points with dealers ...helps them close many a deal."



AUTO-LITE BATTERIES





Mr. Salesman: Here's a feature of this car that adds to its comfort and value. The fellow who designed it used genuine leather in upholstering the front seat and all points of wear. See how the smart color of the leather fits the whole scheme . . . gives it a custom finish.

Mrs. Customer: That is smart. And now I'll be able to get in and out of the driver's seat easily—without my coat clinging to the upholstery.

Mr. Customer: Yes, my dear, you're usually in the "driver's seat," but I'll appreciate the longer life it will give the car.

Mr. Salesman: You're right, sir; and when you trade it in, I'll be able to get more for the car.



*For distinction, durability and sales appeal nothing takes the place of **GENUINE LEATHER***

THE UPHOLSTERY LEATHER GROUP

TANNERS' COUNCIL OF AMERICA • 100 GOLD STREET • NEW YORK 38, NEW YORK

American Leather Manufacturing Company, Newark, N. J.

The Ashtabula Hide & Leather Company, Ashtabula, Ohio

Blanchard Bro. & Lane, Newark, N. J.

Delaware Tanning, Inc., New York, N. Y.

Eagle-Ottawa Leather Company, Grand Haven, Michigan

The Lackawanna Leather Company, Hackettstown, N. J.

Radel Leather Manufacturing Company, Newark, N. J.

world's fastest-working body jack equipment is *Bantam Porto-Power*®



...and here's why!

1. This is the **ONLY COMPLETE** line of hydraulic body jack equipment in the "bantam weight" class. This **GREATER SELECTION** of both *rams and attachments* means more flexibility . . . more ways to **PULL** or **PUSH** . . . greater efficiency on a wider range of body damage!
2. **EASIER, FASTER HANDLING**—"Bantam" has 2 tons of power. It's just the right power and size for 90% of all panel work . . . the most compact, lightweight equipment in its class. It gets in where bigger jacks can't go. And — there's *just one hose* — and *no pumping* to retract the ram.
3. **FASTER PULL, PUSH or SPREAD** because only Blackhawk offers *quick-switch* of rams . . . Bantam gives you a change from a *push* to a *spreader* to a *pull* setup — *lightning fast!*

Equip every body man with a BANTAM... for a happier, more profitable shop!

The money-makers do it *this* way! They arm each man with a "Bantam" 2-ton "Porto-Power" and get *much faster* out-put on 90% of all body work. And, they salvage more body sections, make better bids on rebuilding work and collect more profit on used cars. You get "Bantam" equipment in low cost, portable kits or assortments. See your Blackhawk jobber.

"Porto-Power" is the exclusive (trade-mark name registered)
product of Blackhawk Mfg. Co., Dept. P671, Milwaukee 1, Wisconsin

BLACKHAWK

Chilton's MOTOR AGE, JULY, 1951

If it doesn't offer you all this ...it's not a "Porto-Power"

- ☐ A full range of essential rams!
- ☐ Ability to **PULL** with **FULL POWER!**
- ☐ Easier handling . . . a single hose . . . *revolving* coupler . . . all-directional rams!
- ☐ *Interchangeability* of rams!
- ☐ Spreaders with built-in rams!
- ☐ A complete line of body work attachments! Specialized attachments for repair service!

FIRST CHOICE
in over 90%
of all body
shops

PORTO POWER
IS PROFIT POWER

(Advertisement)

AAA CERTIFIES* NEW SUNOCO MOTOR OIL



*for Long Mileage!
*Engine Cleanliness!
*Long Engine Life!



NEW Premium Heavy-Duty Sunoco Dynalube is one of the very few motor oils that meets or exceeds manufacturers' recommendations for all 1951 passenger cars

Compare with *any* other motor oil these features listed on every can of NEW Dynalube:

1. **Tough Heat-Resistant Body** assures long motor oil mileage.
2. **Fully Detergent-Dispersant**—NEW Sunoco Dynalube cleans engines and keeps them clean. Road dust and contamination from normal combustion are held in harmless suspension until oil is drained at the regular interval.
3. **Free-Flowing and Metal-Clinging** qualities of NEW Sunoco Dynalube prolong engine life.
4. **Anti-Rust and Anti-Acid**—NEW Sunoco Dynalube counteracts two of the greatest causes of wear in the vital combustion chamber areas of any engine.
5. **High Film Strength and Ring-Sealing Action**—insure longer-lasting engine efficiency.

NEW Premium Heavy-Duty Motor Oil Combines in a Single Oil All the Finest Features of America's Premium Motor Oils . . . Actually Improves the Condition of Most Engines.

ROAD TESTED from Quebec to Key West and back . . . under the exacting supervision of the famous American Automobile Association . . . standard popular-make cars were not babied, not pampered. They were driven as you would drive your own car. Cars using NEW Sunoco Dynalube were driven over 2,000 miles, on the average, before a drop of oil had to be added.



LAB FINDINGS. Valve on left shows heavy deposits resulting from use of inferior oils—a common cause of sluggish action and poor valve seating. Clean valve on right shows how NEW Sunoco Dynalube helps engines stay remarkably clean . . . keeps valves free-acting . . . maintains full engine power. **HYDRAULIC VALVE LIFTERS**, in particular, need the *extra* detergent-cleansing protection of this new heavy-duty premium motor oil . . . another important reason why motorists owning cars equipped with hydraulic valve lifters should change to NEW Dynalube.

Memo to CAR DEALERS: To insure better satisfied customers and longer-lasting engine efficiency in every new car you sell, recommend that they use NEW Sunoco Dynalube Motor Oil exclusively. And for high anti-knock performance, suggest they use Blue Sunoco—the high-test gasoline that sells at regular gas price.

We answered

"YES"

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stay
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ent-
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alve

cus-
sell,
vely.
-the

, 1951



D. A. JOHNSON

"I answered 'yes'...

when Prest-O-Lite asked if we wanted to make more money in the battery business by selling more batteries, especially the premium-type. And we're doing just that ... making more money, selling more premium-type batteries."

WILSON MOTOR PARTS
WILSON, N. CAROLINA

D. A. Johnson
PARTNER



M. D. TAYLOR

"I answered 'yes'...

to Prest-O-Lite when they offered a protected battery territory. Now we're doing a really big battery sales volume ... selling both dealers and jobbers."

TAYLOR PARTS & SUPPLY CO.
ANDALUSIA, ALABAMA

M. D. Taylor
PRESIDENT



GORDON S. DAVIS

"I answered 'yes'...

and we got the aggressive field sales support of trained Prest-O-Lite men ... enough support to build a big battery sales volume in our territory quickly."

DAVIS BRAKE COMPANY
PHILADELPHIA 33, PA.

Gordon S. Davis
PRESIDENT



JOHN M. CARTER

"I answered 'yes'...

and found that the Prest-O-Lite Hi-Level Battery, backed by proven advertising, sales promotion, and merchandising, has terrific dealer and consumer acceptance."

CARTER AUTO SUPPLY
DALLAS, TEXAS

John M. Carter
OWNER

is your answer also "yes"?

THEN SEND THIS WIRE COLLECT TODAY!

WESTERN UNION

W. P. MARSHALL, PRESIDENT

1206

DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a full rate telegram	
FULL RATE TELEGRAM	SERIAL
DAY LETTER	NIGHT LETTER

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise this message will be sent at the full rate	
FULL RATE	LETTER TELEGRAM
VICTORY LETTER	SHIP RADIOGRAM

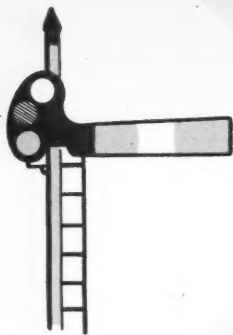
NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

and the following message, subject to the terms on back hereof, which are hereby agreed to

SALES DEPARTMENT
PREST-O-LITE BATTERY CO., INC.
TOLEDO 1, OHIO

AT NO OBLIGATION, SEND ME DETAILS.

YOUR NAME _____
COMPANY _____
ADDRESS _____



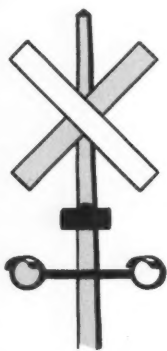
STOP!

*did you send
the collect wire?*



LOOK!

*there's no
obligation!*

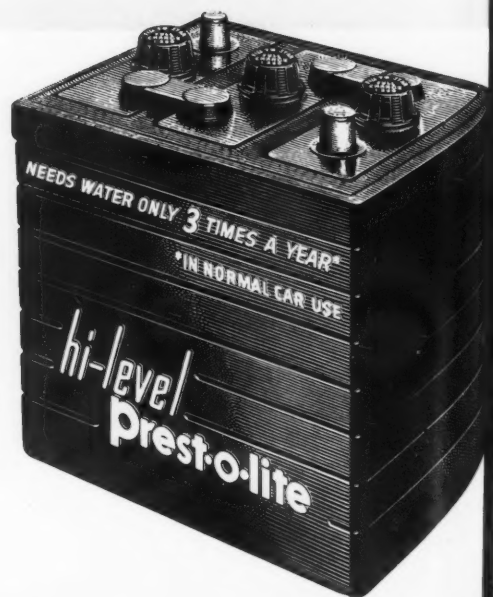


LISTEN!

*it will pay you
to find out about
the Prest-o-lite plan.*

prest-o-lite
hi-level

... needs water only 3 times a year
in normal car use!





A CARTOON FROM THE SATURDAY EVENING POST.

“...it’s not much when you figure the nerve it requires to give that kind of estimate...”

It takes less nerve—and less selling—when your estimate includes nationally advertised, Post-advertised parts and accessories.

When a customer knows he’s getting his money’s worth, getting the best there is—he’s lots easier to sell.

Let your customers know that *you* are supplying the brands they want and expect, the lines they’ve seen in the Post.

Post lines build your reputation and *move fastest* because the Post carries more automotive advertising to more people than any other magazine in the world.



-gets to the
heart of America

Unmatched..



Original



IF YOUR JOM

AUTO-LITE

Bull's-Eye

METAL BACK SEALED BEAM LAMP

Original Factory Equipment on Millions of America's Finest Cars

Only Auto-Lite gives you all 6 profit selling advantages

- ★ Auto-Lite Bull's Eye concentrates stray light into main driving beam.
- ★ Auto-Lite Bull's Eye is guaranteed to burn even when lens is cracked or broken.
- ★ Auto-Lite Bull's Eye is sealed tight in press exerting 9000 pounds per square inch pressure to keep out moisture and dust.
- ★ Auto-Lite Bull's Eye "Passing Beam" throws light down and to right where it is best for drivers.
- ★ Auto-Lite Bull's Eye is factory-focused to assure maximum sustained efficiency.
- ★ Auto-Lite Bull's Eye is designed as replacement for all makes of cars and trucks.

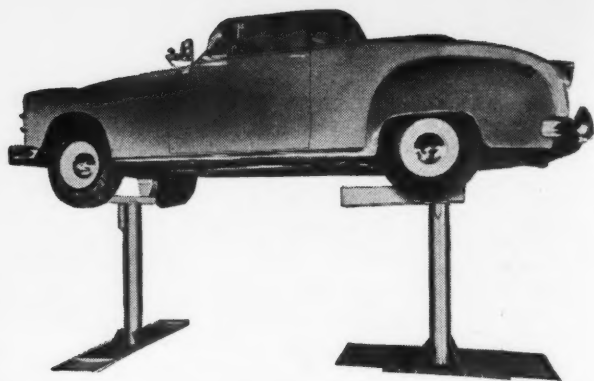
ONCE TEMPORARILY OUT, KEEP TRYING . . . THERE'S ONLY ONE AUTO-LITE BULL'S EYE

More Profits
Through Greater Shop
Efficiency — Install

CURTIS

**AUTOMOTIVE
SERVICE EQUIPMENT**

97 YEARS OF "KNOW HOW" BUILT IN

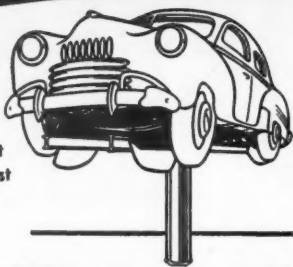


CURTIS FULL HYDRAULIC TWO-POST LIFT

HAS THESE ADVANTAGES:

- No deep pit
- 60-inch wheelbase range
- Plunger travels 72 inches above floor (tallest men work in complete comfort)
- Front and rear steel frames shipped with doors and door operating mechanisms completely assembled. (Easy installation.)
- No obstructions above floor

ALSO, Single post rotating lifts for passenger cars and light trucks. Single or two-post for busses and trucks.



AIR COMPRESSORS

Electric or Gasoline
Motor Driven.
Vertical or Horizontal
Tank Mounted.



See your
CURTIS jobber
or use coupon
below for complete
technical information.



HYDRAULIC CAR WASHER

(300 Pounds Pressure)

For better and faster car washing; more cars are washed per day—more profits for you.

A-51-2

CURTIS PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company
1946 Kienlen Avenue, St. Louis 20, Missouri



I am interested in items checked: Name.....
☐ AIR COMPRESSORS Firm.....
☐ AUTO LIFTS Single Post ☐ Two Post ☐ Street.....
☐ POWER CAR WASHERS City.....Zone....State.....

CURTIS

PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company

1946 Kienlen Ave. • St. Louis 20, Mo.

FEDERATED GARDINER SOLDER...



...MAKES YOUR JOB EASIER

... because the flux is right in the solder. There are no messy acids or fluxes to bother with. All you need to produce a firm and lasting bond is a torch or an iron ... and Federated Gardiner brand Acid Core Solder.

Choose from the many commercial compositions and wire sizes available. You'll find these precise alloys of tin and lead unequalled for consistency, and perfectly suited for joining copper, brass, steel and other solderable materials.

Look for Gardiner brand Acid Core Solder in its familiar blue package. Comes wound on strong metal spools for convenient tool-kit, mandrel or routine use in 1-lb. and 5-lb. quantities. Listed by Underwriters' Laboratories, Inc.



Federated Metals Division

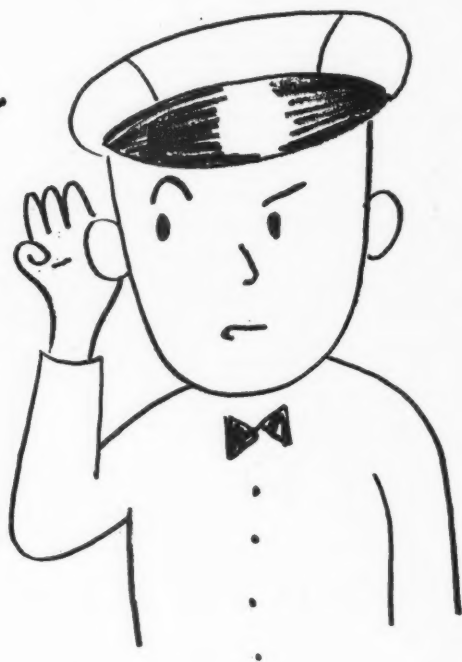


AMERICAN SMELTING AND REFINING COMPANY • 123RD STREET AND INDIANAPOLIS BLVD. • WHITING, INDIANA

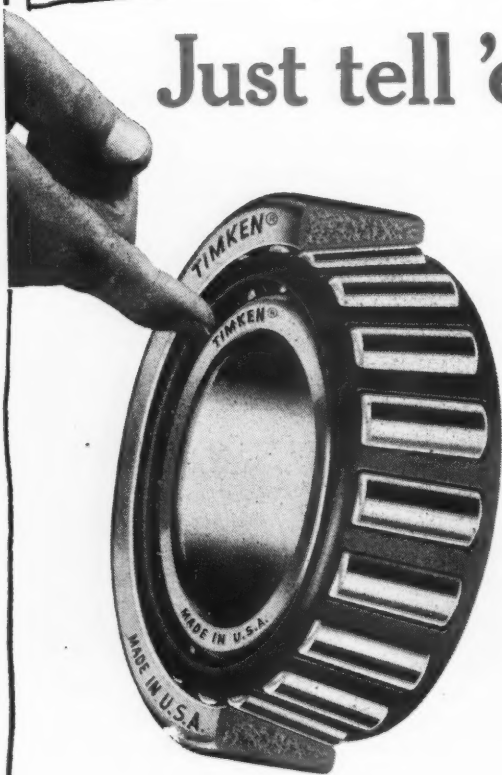
Chilton's MOTOR AGE, JULY, 1951

Are customers' comments music to your ears?

One way to get favorable comments from your customers is to let them know you use the best replacement parts. When you install a new tapered roller bearing, install a Timken® bearing—America's best-known, best-liked bearing—and tell 'em so!



Just tell 'em it's "TIMKEN"®



Timken tapered roller bearings have the most advanced design, are made of the finest steel ever developed for tapered roller bearings—Timken fine alloy steel. They're manufactured to extreme precision. And from melting the steel to final bearing inspection, quality is completely controlled by the Timken Company. Only Timken bearings give you *all* these advantages.

That's why automotive manufacturers—and your customers, too—have made Timken bearings their number one choice. Make sure the trade-mark "Timken" is on every tapered roller bearing you use. **FREE BOOKLET!** Send today for "Timken Tapered Roller Bearings, Their Care and Maintenance". Write Dept. MA-7, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

The right start for a perfect finish...the 3M System for Appearance Reconditioning



Do it right the first time...with the right adhesive!

STOP EXPENSIVE CALL-BACKS by using the right autobody adhesive for every job. These time-wasting do-overs consume the profits of your business—and they are destroyers of customer good-will. The perfect autobody service job is one that's done just *right*—on the first call.

That's why you need 3M *Specialized Adhesives*—each one tailor-made to do a specific job, to do it right the first time.

Working with rubber, metal, glass and fabric, you need carefully compounded adhesives that bond to the surface, stay on the job. There is no "all-purpose" material that can meet all the requirements of today's body shop... there IS a "3M" **SPECIALIZED ADHESIVE** for every material, every kind of work!

Don't take a chance! Use the complete line of 3M *Specialized Adhesives*... the same adhesives as those used on the automotive production lines.

**Do better work in less time
with these 3M Specialized Adhesives**

"3M" Weatherstrip Adhesive • "3M" Autobody Sealer • "3M" Body Caulking • "3M" Clear Auto Glass Sealer • "3M" Trim Cement • "3M" Felt Pad Adhesive • "3M" Autobody Deadener • "3M" Convertible Top Sealer • "Underseal" Rubberized Coating.

**SAVE MANPOWER
WITH**

**3M ABRASIVES
3M ADHESIVES
"SCOTCH"[®] BRAND
MASKING TAPE**



Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives. General Export: Minnesota Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y.

Sell 100% more protection

Why

today's driving conditions require this revolutionary new battery!

1

You're driving more than ever before — more mileage means more battery wear.

2

Your battery is being charged more — not only over more miles but, also, at higher rates.

3

Higher compression motors are here — they require more battery starting power.

4

Today, batteries are under the hood — and under-the-hood batteries must withstand under-the-hood temperatures.



WILLARD STORAGE BATTERY COMPANY • Cleveland • Los Angeles • Dallas • Memphis • Portland • Toronto

New Willard Super

against the No.1 battery killer

with Willard

METALEX

PRODUCTION EXPANDED
to meet the demand for
Willard Super Masters

So great has been the demand for the Willard Super Master, that some dealers have been unable to keep it in stock. But now production facilities have been expanded—more Super Masters are being delivered to Willard Dealers every day!

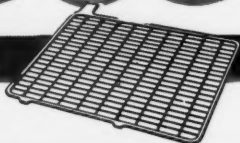
Thousands of car owners have bought the Willard Super Master—thousands still need it. See your Willard Distributor today!

greatest battery improvement in 25 years!

Today, OVERCHARGING is the No. 1 battery killer. More batteries are worn out from this one cause than from all other causes combined! Overcharging strikes directly at the grids—the lead-alloy framework which holds in place the current-producing active material. Overcharging *corrodes* the grids—*fractures* them—*destroys* their ability to retain active material—*destroys* their utility as current conductors.

But now METALEX—a new and vastly superior grid metal has been developed and perfected by Willard metallurgists specifically to combat damage by overcharging. And METALEX does so—stubbornly, effectively. METALEX provides a full 100% more protection against the No. 1 battery killer! METALEX l-e-n-g-t-h-e-n-s battery life. *Available exclusively in Willard Super Master Batteries!*

NEW



THE METALEX GRID
with these
plus features
MAKES THE NEW
WILLARD
SUPER MASTER
CUSTOM-BUILT FOR
TODAY'S DRIVING
CONDITIONS

NEW

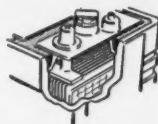
IMPROVED CONTAINER
FOR LONGER LIFE



New design—heavily reinforced at points of stress. Withstands high under-the-hood temperatures.

NEW

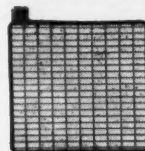
IMPROVED SEALING COMPOUND
FOR LONGER LIFE



Will neither crack in winter nor melt in summer. Withstands high under-the-hood temperatures.

NEW

IMPROVED ACTIVE MATERIAL
FOR QUICKER STARTS



So much more chemically active, that snap starts are assured—even in cars powered by new higher compression motors!

Master with METALEX

MORE HORSEPOWER...

MORE COMPRESSION...

MORE EXPLOSION NOISE...

...but

WALKER

Exhaust

SILENCERS

*keep today's cars
quieter than ever*

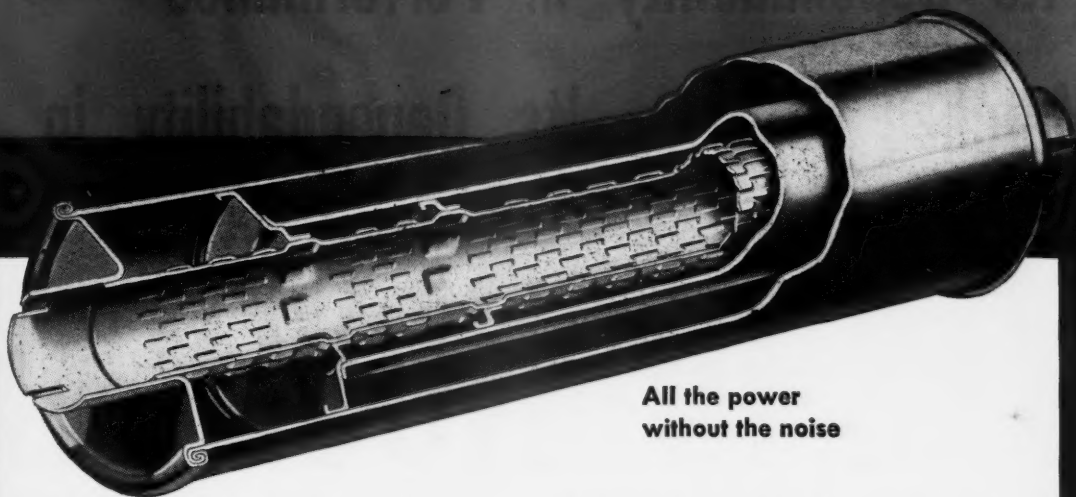
WALKER MANUFACTURING CO. OF WISCONSIN, RACINE, WISCONSIN

NOW, AS NEVER BEFORE

I T

INDIVIDUAL TUNING

MAKES THE DIFFERENCE



All the power
without the noise

● Quieting today's high power, high compression engines is a tough job. Surges of power required by automatic transmissions are longer and rougher and harder to control. New back pressure lows and "hug-the-road" body designs bring a multitude of complex problems in exhaust system design.

But this new era of greater engine power is not new to Walker. Year by year, advancement by advancement, Walker exhaust system engineering has kept abreast. Cooperating closely with car factories, Walker builds exhaust systems for many of America's finest automobiles—cars

which originate and pioneer major improvements such as the super-power engine and the automatic transmission.

Walker has always believed that each car is an "individual." Its exhaust system must be specifically designed to meet the many and varying requirements of its own particular engine.

In this new era of super power, when engines are less and less alike, this basic and exclusive Walker concept of "Individual Tuning" becomes more and more important in exhaust system design and performance. Now more than ever, I. T. does make the difference.



EXHAUST SILENCERS • OIL FILTERS • JACKS • ELECTRIC LIFTS

Its Dependability in Performance
is Matched Only By Its Dependability in
SALES, TURNOVER and
MONTH AFTER MONTH - YEAR

Listen to the CHAMPION ROLL CALL... Harry Wismer's fast sportscast every Friday night, over ABC network

PROFITS

AFTER YEAR!



BE A CHAMPION DEALER IT PAYS!

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Chilton's MOTOR AGE, JULY, 1951



**ANOTHER ONE OF BLUE STREAK'S
36,000 BOOSTERS!**

One thing is certain: the Blue Streak contact in this breaker plate can take more punishment with less squawking than any other contact in the business. That's why it outlasts them all.

It has a contact area that is 55.4% larger than ordinary points — a special Blue Streak feature to reduce the heat of the arc-at-break. Instead of ordinary tungsten, the Blue Streak point is made of high amperage tungsten. Not only can it carry more current, longer — it does so with hardly any burning or pitting. The full length copper shunt cuts down resistance — allows the coil to deliver full power.

And, for all this "reputation insurance," you pay only a few pennies more. *Standard Motor Products, Inc., Long Island City 1, New York.*

***Better your Business...
Buy Blue Streak***



"Using a premium grade ignition part results in a better operation," says Ralph M. Hanks, Hanks Garage, Seattle, Washington. "For instance, I've been a Blue Streak dealer for 6 years, and my ignition business has gone up around 60% in that time. You can see why I think Blue Streak and Standard are tops."



COILS • POINTS • CONDENSERS • VOLTAGE REGULATORS • HEADLIGHT RELAYS • DISTRIBUTOR HEADS & ROTORS • DIMMER SWITCHES • WIRE & CABLE

IT'S NOW... and all through July

Cash in on Purolator's NATION-WIDE FILTER CHECK MONTH



It's the biggest ALL-OUT DRIVE in all oil filter history!

1. Already . . . Purolator has told more than 57,000,000 readers about Filter Check Month through 2-page 2-color spread in SATURDAY EVENING POST, 2-color advertisements in LIFE and COLLIER'S.

2. Already . . . Purolator has supplied special Filter Check Posters by the hundred thousand—is helping dealers everywhere tell and sell *every motorist within eyereach*.

CASH IN—NOW! Just 3 simple steps!

1. Highlight windows and walls with Purolator's Filter Check display material *all through July*.

2. Check the filter on every car. Remember: *every filter check is an extra oil check!*

Chilton's MOTOR AGE, JULY, 1951

3. Talk up Purolator* . . . See that Purolator Micronic* Refills are sold to every motorist who calls.

It's nice business, Mister—and you can get it!

Hurry! Hurry! If you need information—or stock—or ad material—get in touch with your regular supplier *at once!* Wire, or phone—

*Reg. U.S. Pat. Off.

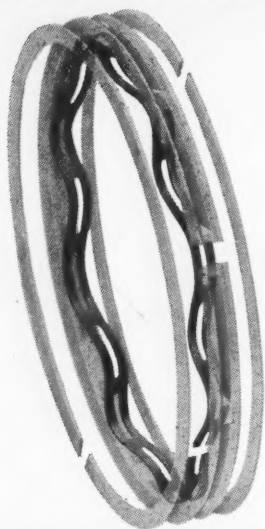
PUROLATOR PRODUCTS, INC.

Rahway, New Jersey, and Toronto, Ontario, Canada



BEST IN NEW CARS! BEST IN OLD CARS!

Sealed Power Piston Rings



MD-50 STEEL OIL RING

The only ring with the Full-Flow Spring

Best for Oil Control even in

BADLY TAPERED
and
OUT-OF-ROUND BORES



CHROME-FACED RINGS

For triple mileage

Latest Scientific development to fight

HEAT, FRICTION
CORROSION, ABRASION



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS

BEST IN OLD CARS



The thrill of stock car racing! And both drivers walked away unhurt.

newscoop . .

Chrysler Gives Tips On Sub-Contracting

Chrysler has issued a list of recommendations for small manufacturing businesses seeking defense work from larger contractors. They include:

1. Determining whether the regular commercial product is suitable, with possible adjustments, to the defense effort, or whether an entirely new product is required.

2. Analyzing equipment and processes to see whether they are well adapted to a wide field of defense work.

3. Decide on an item for the defense effort and seek a major contractor who can use it. Such information is available from Defense Agencies, the Commerce Department, Chambers of Commerce and trade associations.

4. Use the same selling effort as

for a civilian product to convince the prime contractor of ability to produce the item on schedule, to the required specifications, in volume required, and at a fair cost.

5. Upon receipt of an order, find out what the customer expects in the way of tooling, samples, deliveries, and engineering changes.

Highway Safety Conference Meets to Cut Death Rate

More than 2000 delegates from all sections of the country attended the President's Highway Safety Conference in Washington last month. The Conference studied gains and weaknesses in our national highway safety program in recent years and made recommendations which they believe would help to reduce our present death rate of 7.5 deaths per 100 million vehicle miles.

Plymouth Will Not Use V-8 in 1952 Models

In view of known plans for a new overhead V-8 engine in the 1952 DeSoto line, and also in Dodge eventually, there has been considerable speculation the V-8 also would be extended to Plymouth. Latest information, however, indicates that in 1952 models, Plymouth will carry on with substantially the same six cylinder power plant it now is using.

GM May Have New Body in 1952

It is reported that there will be one new body in the GM line next year. It is not yet definitely established which division will have it, but it is understood that Oldsmobile is the most likely prospect. If used by Oldsmobile, it will be on the 98 model.

Willys Seeking Steel For New Small Car

It is reported that Willys has applied for a steel allocation to build a small passenger car this Fall. There has been no indication whether the appeal will be granted. However, Willys has had a small car under development since the end of the war.

Ceiling Prices for Automotive Services

Ceiling Prices for Automotive Services under OPS Ceiling Price Regulation 34 covers these services at the retail and wholesale levels. Generally, the prices controlled by this regulation are the same as those already established under the General Ceiling Price Regulation. Included in the services controlled are: Repair, maintenance, washing, painting, storage, parking, rental, towing and other like services performed in connection with automotive vehicles and farm equipment and their parts and accessories. Repairs to tires and tubes are also included. The regulation, effective May 16, 1951, covers the ceiling price of these services at



The Rambler Country Club is Nash's newest. It is a hardtop convertible powered with the 82 hp, six cylinder engine. Wheelbase is 100 inches, width is 73 1/2 inches and overall length 176 inches.

all levels, retail, wholesale, industrial and commercial.

Under the General Ceiling Price Regulation you should have prepared and maintained in your place of business a statement of the ceiling prices of the services you delivered or offered for delivery during the base period.

Nickel-less Car Trim Needs Special Care

Problems arising out of government orders restricting or prohi-

biting use of nickel in automobile trim parts are causing headaches for passenger car builders. Nickel still is permitted in bumpers, bumper guards, and door handles, but the thickness has been limited to .001 in. In other parts, nickel is not permitted, with the exception that platers may continue to run out the nickel left in baths at the time of the effective date of the order. As a result, some parts already are being plated with chrome directly over the copper, whereas items obtained from other suppliers may continue with nickel running through July or August. This complicates instructions to buyers of automobiles on the proper care of plated parts having only the copper-chrome treatment plus a layer of protective enamel or lacquer. Buyers are warned not to use harsh abrasives on lacquered or enamel parts. Several companies already are including instruction on proper care of these parts in owner's manuals.

Beauty on Wheels . . .

"Thanks for the ticket. Will I see you in court?" is what the male traffic offender might say if June Paul happened to be the motorcycle officer instead of the feminine member of a trampoline act of "Paul and Paulette" which appeared at the Los Angeles Police Show.



K-F Japanese Plant Builds First Car

East Japan Kaiser-Frazer Ltd. has turned out its first Henry J, the first American car produced in that country since the beginning of World War II. Initial production is at the rate of 500 cars a year, but is scheduled to be expanded. The Kaiser-Frazer operation is a subsidiary of East Japan Heavy Industries, Ltd.

Houston Ford Dealer Attracts 15,000 to Opening

Colonel Pearson recently dedicated his huge Ford Square in Houston, Texas. Estimates placed the Opening Day crowd at 15,000, drawn by the vast amount of publicity given the event. Patti Page, one of the nation's top recording and radio stars, headed the entertainment for the crowd that packed the city block. An old car contest drew among other entries a 1900 Sears, a 1904 Brush, and a 1908 Ford, all in good shape. Winners in the two classes were awarded luxury vacation tours for two in Mexico. Every visitor received plastic key chains as mementos of the event. Colonel Pearson has been a Ford dealer in Houston for thirty five years.

Chicago Auto Trade Assn. Directors Elect Officers

The Chicago Automobile Trade Association directors have elected four new officers headed by James F. Goodwin, of James F. Goodwin, Inc. (Dodge-Plymouth) as president.

The other officers are: Robert J. O'Donnell, of O'Donnell Motor Sales (Hudson), vice-president; Jerry H. Cizek, of Logan Square Sales & Service (Chrysler-Ply-



James F. Goodwin

outh), treasurer, and Charles E. Stube, of Packard-Hubbard Woods, secretary.

Goodwin, who succeeds Frank H. Yarnall, of Yarnall Chevrolet Co., as president and the 1949-50 term as treasurer of the association. He has been on the board since 1946, and on the Chicago Automobile Show executive committee the past two years.

Chilton's MOTOR AGE, JULY, 1951



Austin Around-the-World . . .

Alan Hess and his team recently circled the world in an Austin A-40, 17 days after they started from Birmingham, England. The car was driven from Paris to the foot of Italy, then flown to Lebanon, then driven day and night across the great deserts to Bagdad, down to India, across the subcontinent to India, then by air across the Pacific. The last leg was from the West Coast to New York City. The purpose of the trip was to show that the compact little four cylinder car is capable of going anywhere.

Arkansas Dealers Elect Hughes President

At the seventeenth annual convention of the Arkansas Automobile Dealers Assn. the following officers were elected to serve for the coming year: President, Roland Hughes of Jonesboro; vice-president, Searcy Wilcoxon of Hamburg; treasurer, Walter Jennings of Little Rock. George Benjamin serves as secretary-manager.

Over 300 delegates and friends attended and the panel discussions in particular were a great success.

Firestone, Cities Service Form Chemical Firm

Firestone Tire & Rubber Co. has joined with Cities Service Co. to form a new chemical firm to be known as American Petrochemical Corp. As its name indicates, the company will manufacture chemicals from petroleum. Ownership will be divided equally between Cities Service and Firestone. Plans call for production ultimately of chemicals for synthetic rubber, plastics, lubricating oil additives, anti-freeze cracking catalyst, and

other related products. The entry of Firestone brings to five the number of major tire manufacturers who have entered the chemical field.

Auto Refinishing Classes Offered by DeVilbiss Co.

Classes in automotive refinishing and preventive maintenance of car finishes at the School of Spray Painting operated by the DeVilbiss Co., Toledo, Ohio, will be offered on July 30th, September 10th, and October 29. User's of DeVilbiss equipment may make application now to enroll their spray operators, shop superintendents and service courses scheduled. Enrolees pay managers for any of the one week only for meals and lodging while attending the school. Class meetings and shop practice take place in the new DeVilbiss Customer Service Building on the site of their main plant in Toledo. This new headquarters also offers a complete research center where customers may submit problems on all phases of finishing and spray equipment.

—news scene—



◀ The new Stewart Warner instrument, in the insert, measures speed and distance and helps the farmer in all sorts of ways, but the model makes a prettier picture. Probably can't even drive a tractor, though.

▶ His sentence was to wash all nine of the town's police cars for reporting his car missing when actually he couldn't remember where he had left it. That cleaned up everything but the blotter.



◀ Oscar Pollari, shown here, claims he owns the oldest car in regular use on the road today. He made a 1500-mile trip from Mexico to Wisconsin, last August, in 12 days. It's a 1905 Maxwell.

▼ This two-story trailer provides the same floor space and number of rooms as a 48 ft. single story, but it's 20 ft. shorter. Sally O'Neil and Diane Davis begin the tedious chore of washing windows, no fun on any trailer.

▼ While giving a few pointers to a student racing driver, Johnny Zeke, instructor at a Long Island school for stock car racers, clings to the side of a car.



... Report to Our Readers



July 4, 1951

Their words, spoken one-hundred seventy-five years ago, never die. May their ideals which burst from their hearts, live forever.

"They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety."

Benjamin Franklin

★ ★ ★ ★ ★

"Equal and exact justice to all men, of whatever state or persuasion, religious or political; peace, commerce and friendship with all nations, — entangling alliances with none; the support of the State governments in all their rights, as the most competent administrations for our domestic concerns, and the surest bulwarks against anti-republican tendencies; the preservation of the general government in its constitutional vigor, as the sheet anchor of our peace at home and safety abroad; . . . freedom of religion; freedom of the press; freedom of person under the protection of the habeas corpus; and trial by juries impartially selected, — these principals form the bright constellation which has gone before us, and guided our steps through an age of revolution and reformation."

Thomas Jefferson

★ ★ ★ ★ ★

"To prepare for war is one of the most effectual means of preserving peace."

George Washington

★ ★ ★ ★ ★

"Here the free spirit of mankind, at length,
Throws its last fetters off and who shall place
A limit to the giant's unchained strength
Or curb his swiftness in the forward race?"

William Cullen Bryant

★ ★ ★ ★ ★

Post Your Certificates

Certificates indicating that automotive service dealers are now participating in the "Care-Will-Save-Your-Car" campaign are now available. These certificates should be prominently hung in every shop and service department. They are obtained by a \$1.00 membership in the National "Care-Will-Save-Your-Car" Institute, together with a colorful decalcomania and other information, from the Automotive Advertisers Council, Inc., New Castle, Indiana.

About Hose Clamps

A valuable footnote (worth about half a million dollars to our readers) should be added to Motor Age's recent survey of the replacement hose and fan belt market. (See June, 1951.) When those one and one-half million defective radiator hoses on post-war cars are being replaced, be sure you use new clamps whenever necessary—and charge for them.

It's Your Job

The automotive service dealer rarely has any roses pinned on him for his contribution to highway safety. That's probably his own fault for he has not, to any great degree, taken upon himself the public responsibility of keeping cars safe all year round. The job that we face is doing not only what the law requires or what the customer desires. The aim should be to convince himself first and then everyone with whom he contacts, that the need for safe cars is a day by day assignment and not a program to be picked up and left off as the whim strikes him.

Frank P. Tighe

Editor



Subcontracting in a National Emergency

Using the lessons learned in last war many a dealer can convert profitably to

ALL car dealers can see the benefits of some type of war production work if and when cars are taken from us and I would like to suggest a few things for your consideration if a war economy is again forced upon the nation.

Several of my dealer friends had experiences in war production work in the last war in widely different activities. I have talked with them at length about the details of these experiences. It is interesting to note that all of them entered the effort with a patriotic thought in mind. Although they didn't make any great profit, they did learn considerable and enjoyed the experience very much personally and are ready to try again if the time arises.

The dealers who went into the war work in World War II were not confined to any particular make of car, size or location. General Motors, Ford, Chrysler, and independent make dealers were represented. There were dealers with

floor space of 2000 square feet and 30 employees, and with 30,000 square feet and 300 employees. There was no standard pattern as to how they got started in the war production work. Some were looking for personal war jobs, others hired sales contact men, while others went to their auto manufacturers or vendors looking for sub-contracts.

One General Motors product dealer, who happened to be a graduate mechanical engineer, went directly to the Navy for a prime contract. Because of his personal knowledge of mechanics he was able to do his own estimating and set his own prices on bids. This knowledge also gave him another advantage in that he did a lot of his own designing and personally supervised the setting up of machines and production procedures.

His one troublesome item was collecting payment for work done. Being a prime contractor, he usually did not get paid until after 90 days



by James Mason, Dodge-Plymouth
Dealer, Ferndale, Mich.

war production if the need arises

and occasionally invoices were four or five months old before settlement was made. A situation such as this calls for plenty of available cash or credit in order to be able to continue operations. He set up a separate corporation and later took on an additional building as machines were made available to him by the government. His contract was for 40 mm shell cases and during the three-year period of his contract he delivered over 70 million shell cases. At the end of the war the government renegotiated his contract and he was able to dispose of all his machinery and equipment. He had made a reasonable return on his investment and effort and readily converted back to his garage and service operations.

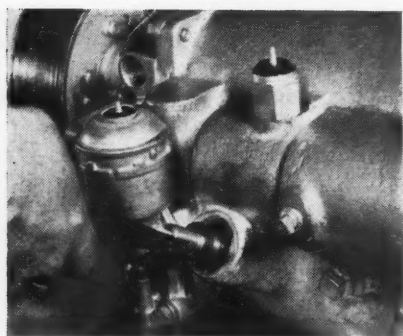
A Ford product dealer, with no production experience or technical mechanical knowledge, took on a sub-contract with his factory to make cables for bombers. He sent a cost accountant and a

time study man to various places to get estimates for the bid. He also set up a separate corporation for the war work. His first production efforts with 300 employees added up to 3000 cables per day on one shift. After 60 days of terrific personal effort and mental agony it was possible to get the production up to 7000 per day. This was still not satisfactory due to too much waste on scrapped material. However, continuing with experimentation, studying of the operation, and with more efficient methods, plus assigning of responsibility to each workman in cooperation with union officials, and by adding two more shifts, thus operating 24 hours a day, he was able to produce 1000 cables an hour with only 100 employees on each shift, a total of 300 employees still. He found that by buying the materials for production and not taking them on consignment he saved much time in inventory checkups. At the close of the war he was able to dispose of his equipment and convert his shop back to garage work without much delay.

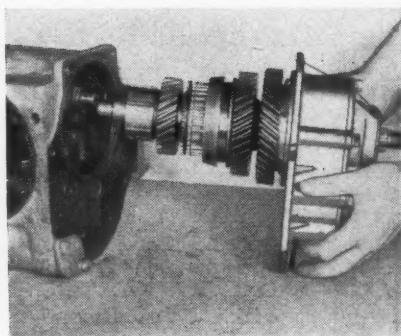
A Chrysler product dealer, who had a smaller shop and no experience in production and manufacturing, hired a manufacturer's representative on a 5 per cent commission basis to get sub-contracts for him. This man also assisted in the cost estimate work necessary for the bidding. The dealer set up a separate co-partnership for the operation although he allocated only a part of his garage floor space to manufacturing work. He purchased approximately \$75,000 worth of machines during the four-year period. His operation was under \$500,000 per year in volume and he was able to borrow enough money through a government agency to pay for his machines at the time of purchase and to carry his accounts receivable, as his customers were usually 90 to 120 days late in payment of invoices. He used only about 30 employees, these being of course under the wage and hour laws, and he had a union contract with them. He states that it took a terrific amount of detail work and personal effort on his part but that he actually enjoyed it and would try it again. At the end of the war he had no difficulty in dis-

(Continued on page 78)

Overhauling CHRYSLER'S



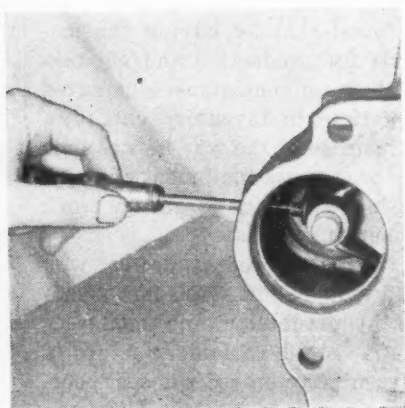
1. Needle-nose pliers are used to extract the governor drive pinion.



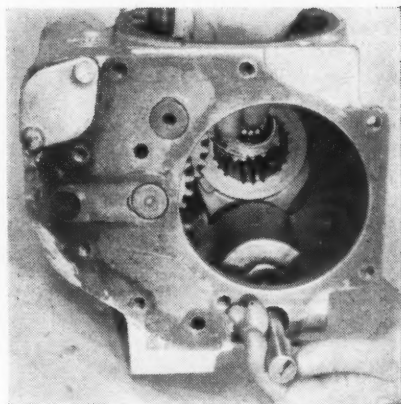
2. The rear housing and main shaft assembly are removed as a unit.



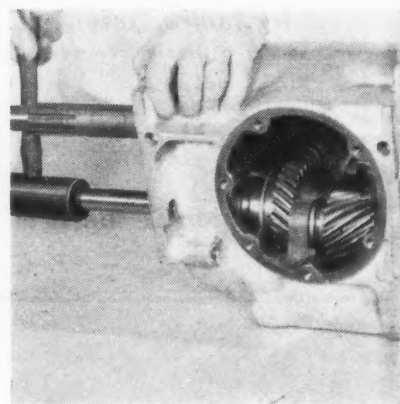
3. The cap screws can be used as a handle to remove the direct speed rail guide.



6. A lock screw holds the direct speed shifting fork to the rail.

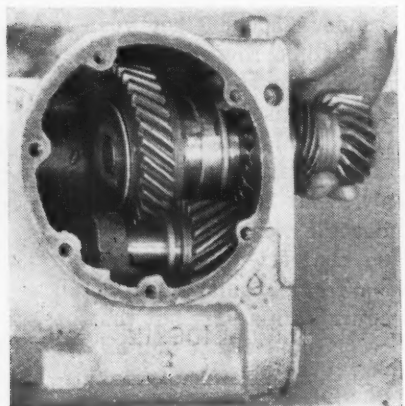


7. The shift fork rail is taken out through the rear of the case.

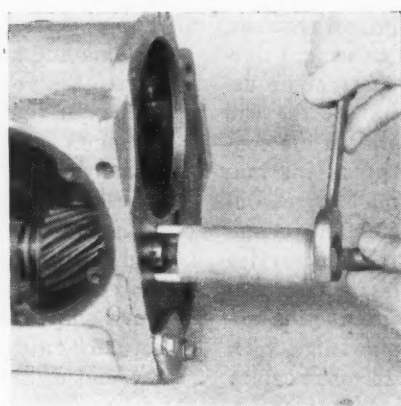


8. The counter-shaft is driven out of the rear of the case with a mallet.

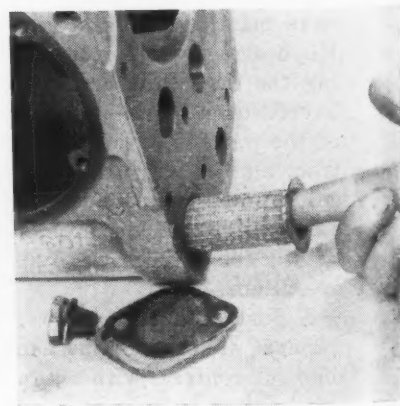
10. The counter-shaft gears are taken out through the rear of the transmission.



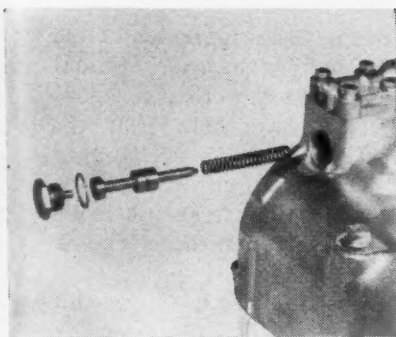
11. A special tool is used to remove the reverse idler gear shaft.



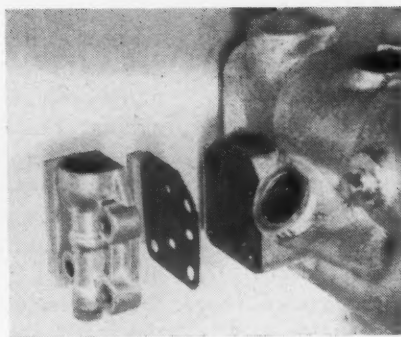
12. The oil strainer can be slid out after the cover and gasket are removed.



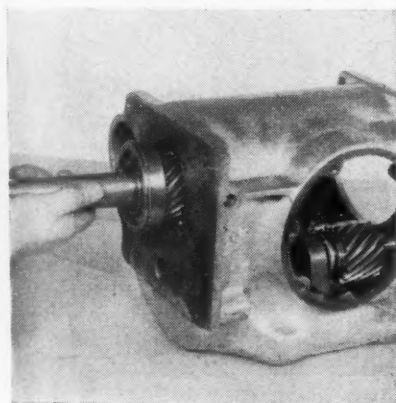
Hydraulic Transmission



4. An exploded view of the main control valve plug, gasket, valve and spring.

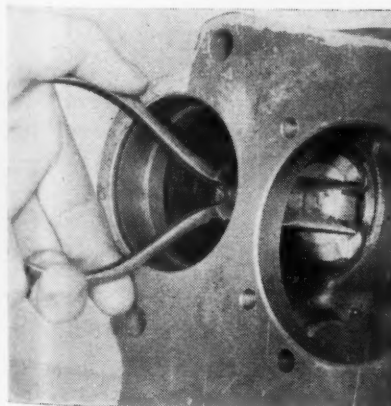


5. The pilot valve housing is secured to the case by four cap screws.

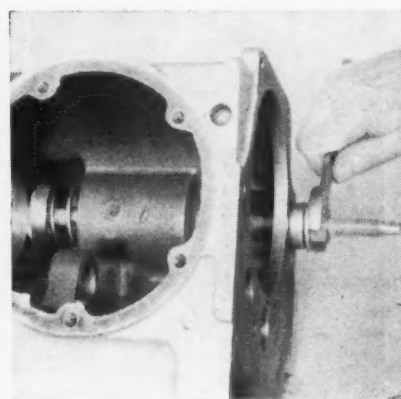


9. The main drive gear is now free to be removed from the case.

13. Removing the piston retainer lock ring. Compress retainer spring first.



14. A special tool is used to compress the piston spring.



The Chrysler transmission can be overhauled in three and one-half hours, after it is on the bench

by Jack Montgomery, Technical Editor

BEFORE doing any work on the transmission the car should be road-tested and a note made of the noises and on how it operates. First check the electrical system for loose wires and dirty connections. Then check the oil level in the transmission. Low oil pressure would cause the piston not to move forward for the upshift. If all the electrical connections are found tight and

the linkage free and plenty of oil in the transmission, it would indicate a ground in the electrical circuit that energizes the solenoid. To locate the ground first start with the governor. Put the shift lever in neutral with the engine running at idle. Connect one of the test leads to the governor terminal and the other red wire to the solenoid. The test light should go on but as the engine is sped up the test light should go out. If the

light stays on the trouble is either in the wiring or the governor. First check the wiring.

Disconnect the yellow wire at the governor terminal. Connect one lead of the test wire to that wire and the other lead to the red wire terminal of the solenoid. If the light goes out, the wiring is OK and the trouble is in the terminal. If the light doesn't go out, the yellow wire probably is grounded. Check the wiring to the interrupter switch, the kick-down switch and to the anti-stall control. If the wiring test is OK test the electrical units for possible

... CHRYSLER Hydraulic Transmission CONTINUED

internal grounds.

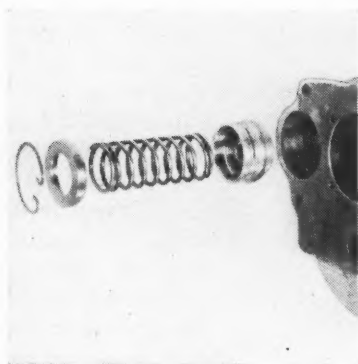
Check the kick-down switch by first removing the wiring from the kick-down switch terminal. Then connect the test light between the negative terminal of the battery and the terminal of the kick-down switch. If light goes on, it indicates an internal ground in the kick-down switch. To test the solenoid for a ground within the solenoid, disconnect the yellow wire at the solenoid terminal. If the light goes out, the solenoid is probably grounded inside and will have to be replaced with a new one.

Before discarding the solenoid, make a posi-

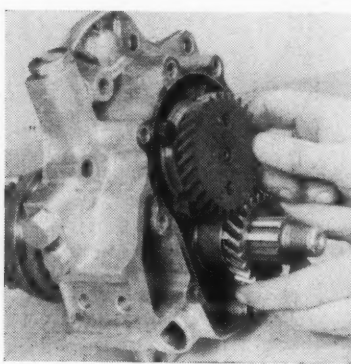
tive test with a battery. Connect the lead from one terminal of the battery to one terminal of the solenoid and ground the other terminal against the battery hold-down bolt. Hold the solenoid upside down, that is with the plunger pointing up and when the current passes through the solenoid, the plunger should move out. It should drop back in when the circuit is broken.

If the solenoid and wiring are both OK and the test light still stays on, then the governor circuit should be checked. The governor points

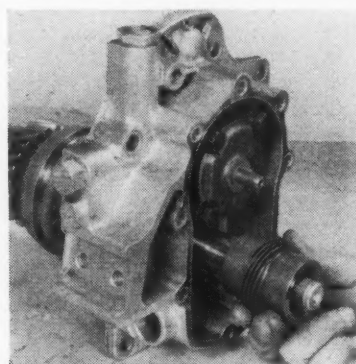
(Continued on page 83)



15. An exploded view of the piston spring and component parts.

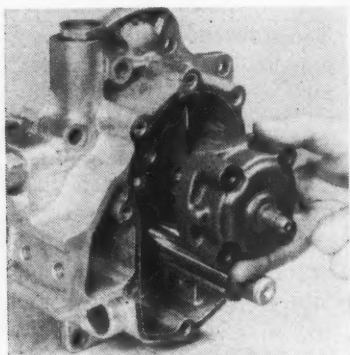


16. Removing the fibre oil pump driving gear from its shaft.

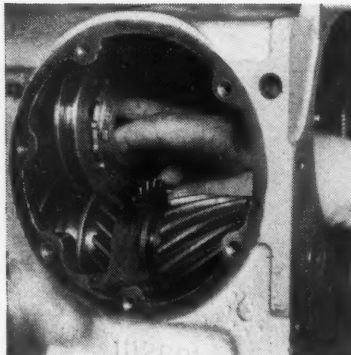


17. The speedometer drive gear is taken off the splined shaft as shown above.

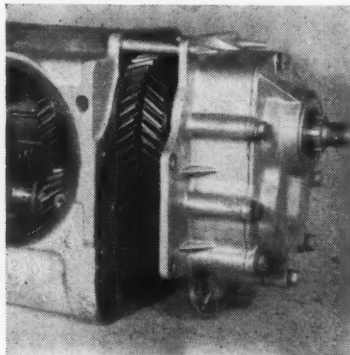
18. The oil pump housing can be lifted out after four cap screws are removed.



19. The direct speed gear blocker ring is installed as shown below.



20. Proper alignment of the rear housing is assured with the use of pilots.





A Sale Under Every Hood

"Engineered lubrication" has at last solved the upper cylinder problem and offers new sales possibilities to all

THERE is a vast potential market for the sale of both upper cylinder lubricants and the devices by which they can be put into the engine because so few American cars are, at present, equipped to supply effective lubrication to this area. Installation time for a unit of any type is relatively small. The cost is reasonable and the operating expense runs at a tenth of a cent per mile or less. For this nominal expenditure your customers can expect to get considerably better performance, quicker starting, longer engine life and probably a noticeable reduction in fuel consumption.

The use of upper cylinder lubricants does help to remove accumulated engine carbon and to control the amount of carbon deposited in the future. Thus it eliminates valve sticking and keeps rings free. And to some extent, it does reduce the operating temperature of the engine itself.

In short, upper cylinder oil does lubricate a part of the engine which has not been lubricated sufficiently well in the past. All the advantages of any lubrication as such, are therefore inherent

in the use of upper cylinder lubrication. The whole field of upper cylinder has made great strides forward since the early days when it was considered more or less "medicine man" item. Today modern additive lubricants, plus modern methods of introducing the lubricant to the upper cylinder region, have combined to fill a need which long has been recognized by automotive engineers. And to both the car dealer and the independent repair shop operator alike, this progress has opened a new profit field in the sale of lubricants and lubricators.

The purpose of upper cylinder lubrication is to lubricate effectively that high temperature zone in which valve stems and other parts in the upper cylinder are in nearly constant motion. Such crankcase oil as does reach the area rapidly deteriorates in the high temperatures, leaving carbon and gum residues. Many of the leading oil companies have recognized the problems inherent in getting adequate lubrication in this area and have developed top cylinder oils of one type or another. They are formulated to penetrate and dissolve the gum deposits and cause these deposits and the carbon to be ejected through the exhaust, and to lubricate these high temperature areas effectively. Many of these can be poured

(Continued on page 104)



Pop O'Neill

Experience teaches Tommy that a road test, sometimes as important as the job itself, should be made before the car is released

Pop Gets a Gear Jumper

by Charles M. Kenyon, Managing Editor

TOMMY WINTERS, Pop O'Neill's apprentice, sang softly to himself as he worked feverishly to make the final connections on the transmission installation. It was almost closing time on Saturday, but he felt that if Jeff Hundt didn't come right on time for his car, that he might still be able to finish it so that Jeff could have it for the weekend. With Larry Tait, the regular mechanic on vacation, work had piled up a bit on Pop and Tommy until they were running behind schedule. Some long hours and some particularly good work by young Tommy had cleared away the pile until this, the last big job, was about completed. And Tommy felt good about this one. It was the first transmission job that Pop had ever let him handle alone, and although Pop had been right on hand to check almost every step, Tommy felt that he had done a first-class job on the whole unit. He wasn't quite finished connecting all the linkage when Jeff appeared in the doorway.

"Hi, Tommy," he called. "Is she already to go?"

"Not quite," replied Tommy. "I've got to connect the linkage. Then I should road test it to be sure that it works OK."

"Gee, I'm in a real hurry," said Jeff. "Suppose you connect the linkage, an' let the road

test go. It's probably OK anyway. An' if it isn't, I can always bring 'er back."

"Well," said Tommy, "it's a rule of the shop that we never let anything go without testing it." He hesitated as he saw Jeff's face fall. "But maybe we could make an exception."

Jeff stooped down and scratched the ears of a floppy-eared hound beside him. "Hear that Buck," he said, "we got to go fishing up the lake this weekend." Almost as though he had been given a command, the dog spun around and disappeared outside.

"Where's he going?" Tommy asked the dog-catcher.

"Probably out to tell the other fellows," said Jeff, not even smiling. "They all like to hear the good news. These hot days I take them up to the lake every chance I get."

Tommy grinned. "You mean every dog in the pound goes up for a swim?"

"Well," Jeff drawled, "it ain't exactly like that. You see we don't have a very big pound so the dogs that get turned in, I sorta look after them myself."



It seemed to Larry, as the car came closer, that the dogs were taking considerable delight in Jeff's predicament.

Tommy glanced out through the big double doors where a conglomeration of canine characters sat, waiting for their friend to come out. He snapped the hood down with a bang. "Go ahead Jeff," he said, "I don't think she'll give you much trouble now."

"What did Pop say was wrong with it when I brought it in?" said Jeff.

"A few teeth were missing on your low and reverse gear," explained Tommy. "We've taken the whole transmission apart, checked it carefully, and replaced everything that looked as though it might give you trouble."

As Jeff backed out the double doors he gave

a shrill whistle. With yelps of delight the little dogs hopped through the open door and the big dogs sailed cleanly over the side of the topless convertible.

Tommy watched the '41 Plymouth fade up the road until he could no longer make out all the little heads eagerly gulping in the warm summer breeze. Then he turned back inside and began to pick up his tools for the weekend.

The following Monday morning Larry Tait was back from vacation and for once, was at work early. Before he was fully awake, Jeff Hundt's old convertible and its carload of dogs

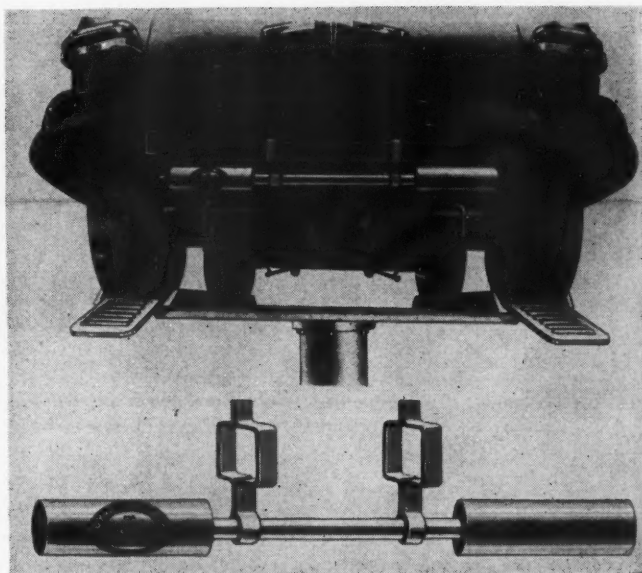
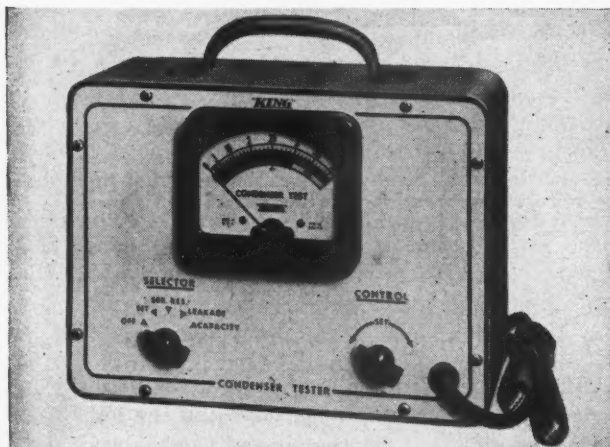
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NEW Products

SHOW WINDOW

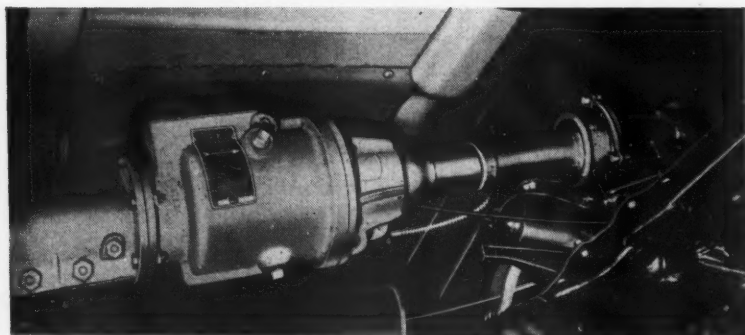
► 301. Skid Control Device

Siltep, Inc., has developed the Gyro-Stabilizer for skid and curve control. This invention is said to control skids on ice, snow, wet or dry surfaces. The device is claimed to be simple to install, attaching to the rear cross member of the car. It operates on a physical law that every action has a counter action. Gyro-stabilization harmonizes and counter-effects the action of the uneven distribution of weight within the car,



◀ 302. Redesigned Test Sets

King Electric Equipment Company announces that the King portable tester has been redesigned. This new unit, known as the King Model G-203 completes the King line of six portable testers. These six matching units can be mounted on a portable cabinet or wall rack to form a complete analyzing set.



◀ 303. Truck Overdrive

The Truckstell Manufacturing Co. has introduced a new auxiliary overdrive transmission light truck. With the new Truckstell overdrive the driver has control at all times for quick shifts in traffic, and for speed on hills. Shifting of the new auxiliary transmission is manual and the driver has a selection of six forward speeds. The driver can shift at any speed by first depressing the clutch.

**For Further Information
Use Postcard Facing Next Page**



▲304. Valve Silencer

Joe L. Estes Company is marketing the Val-Vin-Hed silencer designed to silence valve clicking noise in overhead valve engines. It is also intended to provide overhead lubrication over the entire valve mechanism and to afford protection against moisture condensation.

▶305. Tire Repair Gun

The Diamond Gas and Fuel Company has developed a tire repair gun that is claimed to repair a flat tire in about one minute. The tool, known as the "Tyron," is used with the tire on the vehicle. The nail is pulled out and the gun placed over the hole. Then six or eight turns of the gun handle shoot the repair material through the casing into the hole for permanent sealing.



▲306. Improved Wrenches

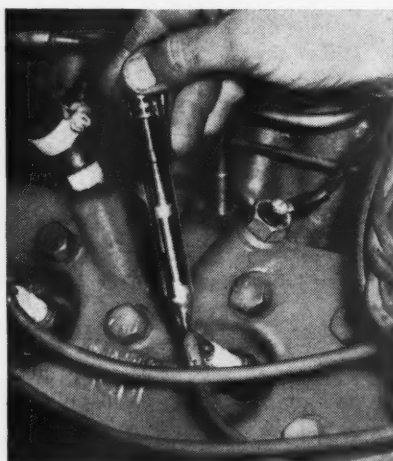
Plomb Tool Company has made several improvements in Proto standard box wrenches, open end wrenches and combination box and open wrenches. The open end heads now have jaws which are narrower to reduce the overall width of the new pear-shaped heads and to provide extra strength. Shank edges
(Continued on page 52)

New Products Continued from Page 51

have been rounded. The finish of the open end flats and the box exteriors are now polished with a high luster and shanks now have a satin finish. Most lengths were changed to provide the proper leverage for each wrench and to make the progression of lengths more uniform.

307. Plug Tester

Champion Spark Plug Company announces a new firing indicator for checking voltage being supplied to the spark plug. The tool indicates probable sources of trouble by readings which are subject to various interpretations.



Faulty points, coil, condenser or cable connections are indicated by uneven intensity of flashing as speed is increased. Included among the many checks which can be made is a leak along the high tension ignition cable.

308. Sales Chart

The Gumout Division of Pennsylvania Refining Company has announced the availability of a 20 inch by 30 inch three-color lithographed wall chart for use by Gumout dealers who offer carburetor cleaning service. The wall chart illustrates the "16 Pass-Ports to Carburetor Trouble" and gives a diagnosis of the difficulties caused by gasoline gum in the carburetor, such as hard starting, sluggishness, busking, flooding, high gas consumption, and slow pick-up.

309. Curved Visor

Vision Visor Corporation of America announces a new curved windshield visor made of DuPont Lucite. The fully transparent visor is said to offer no visibility obstruction in any direction. Eye fatigue is reduced by the action of the Lucite, which filters out hard infra-red rays and diffuses the dazzling reflections from the sun, snow and glare of approaching headlights to a soft glow. The visor is available in green, blue or red.

310. Screwdrivers

Independent Pneumatic Tool Company is featuring a new line of pistol grip screwdrivers identified as the "ED" series. The line is available in thirteen attachments and speed variations for driving up to No. 12 screws and for setting nuts up to 1/2 inch thread. The ED series screwdrivers are available in speeds of 500, 800 and 1,100 R.P.M. in all straight and 25 degree angle attachment models and 660 and 880 R.P.M. in right angle models.

311. Plier Manual

Utica Drop Forge and Tool Corporation is offering a booklet on how to get worn and damaged pliers back into useful shape. The booklet entitled "First Aid For Pliers" deals with the common ailments of long-used pliers in picture, diagram and how-to-fix-it copy. Rust, too tight or too loose joints, bent jaws, broken tips, and dulled cutting edges all are ailments to which the best of pliers may ultimately fall heir. The manufacturer offers copies of this booklet, free of charge.

312. Follow-Up

Diebold, Inc. announces a new service follow-up system, designed to bring customers back to the shop at specified periods after previous servicing. The system makes use of colored signal tabs, which indicate when the customer should be back. Listed on the record are

the twenty-five most frequent service operations, so that posting to the card is easily done by check marks. All records and guides are punched with slots and mounted on a bar in a desk tray, so that records cannot be spilled or scrambled.

313. New Bulletin

Hygrade Products Division of Standard Motor Parts, Inc. is publishing "Fingertips," a four page bulletin mailed monthly to all registered high-grade dealers. The publication offers ideas on how to attract automotive service business into the shop and how to handle it properly. The lead article generally features some merchandising angle of current interest and an entire page is devoted to a technical discussion of automobile motor efficiency.

314. Body Jack

Atlanta Tool Company has designed a mechanical body jack known as the "Atco." Easily operated by one man, this 2 1/2 ton capacity unit is said to assure ample strength for practically all body straightening jobs. The entire assembly, including the metal case, weighs 36 lbs. The power unit is designed to eliminate maintenance cost, the screw being



turned from cold drawn steel and the sleeve gear being a bronze casting. The unit is packed in grease at the factory and should never need attention. Everything necessary for the job is contained in the kit except a one-half inch socket or ratchet wrench which turns the power unit.

(Continued on page 54)

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HERE'S HOW TO GET

Free Information

Here is a recap of the New Products described in this issue, along with their code numbers.

On each of the postage-paid postcards below you can request further data on items described in this New Products section. Fill out one of the sections completely for each item in which you are interested.

- 301. Skid Control Device
- 302. Redesigned Test Sets
- 303. Truck Overdrive
- 304. Valve Silencer
- 305. Tire Repair Gear
- 306. Improved Wrenches
- 307. Plug Tester
- 308. Sales Chart
- 309. Curved Visor
- 310. Screwdriver
- 311. Plier Manual
- 312. Follow-Up
- 313. New Bulletin
- 314. Body Jack
- 315. Timing Light
- 316. Helper Spring
- 317. Tool Catalog
- 318. Brake Liners
- 319. Car Holder
- 320. Quick Charger
- 321. Body Panels
- 322. Brake Sets
- 323. Socket
- 324. AntiFreeze Kit
- 325. Clutch Parts
- 326. Hand Soap
- 327. Grinder Info
- 328. Car Wash
- 329. White Tire Paint
- 330. Anti Freeze Tester
- 331. Merchandiser
- 332. Turn Signals
- 333. Muffler Rack
- 334. Unit Lifter

USE THESE POSTCARDS

<p style="text-align: right;">7/51</p> <p>Name</p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p>	<p style="text-align: right;">7/51</p> <p>Name</p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p>
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New Products Show Window

Continued from Page 52

315. Timing Light

E. Edelman & Co. announce a high tension ignition timing light with a small diameter head, designed for ease in getting into inaccessible places. A silvered reflector and magnifying lens intensifies and concentrates the beam of light. The light is oil and grease resistant and has extra long flexi-

ble leads equipped with Visegrip clips. The lens and element are fully enclosed and protected against breakage.

316. Helper Spring

The Gabriel Company has developed the Mono-Flex helper spring for use on passenger cars, station

wagons, and light trucks. When operating on under normal weights, the auxiliary spring leaf does not interfere with the action of the conventional spring. The main object of the spring is to improve handling while carrying overloads, but it also helps to absorb braking and starting torque on the rear springs, reduce side sway and help maintain spring stresses within safe limits.

317. Tool Catalog

The Duro Metal Products Company is publishing a new pocket-size tool catalog for mechanics' use. Measuring 5 3/8 inches by 7 inches, it is specially designed to fit into the mechanic's pocket or tool chest. It describes and illustrates the complete line of Durochrome hand tools and also includes interesting tool information.

318. Brake Liners

Gatke Corporation is offering an illustrated folder showing how a small inventory of Gatke Duz-All liners provide relined coverage for any passenger car or light truck. Twelve hundred and twenty-six models are covered from 1930 to 1951, including all factory bonded shoes.

319. Car Holder

Wico Electric Company announce a device known as the Autostop, designed to hold a car stopped on a grade or on the level. It consists primarily of a cylinder which is added to the car's hydraulic brake system, "on" switch on the gearshift lever and an automatic "off" switch which releases the brakes when the driver steps on the gas.

320. Quick Charger

Quick Charge, Inc. is featuring a model Q-300 battery charger, which is combined with a tester and a discharger. The unit is 36 inches high, 16 inches wide, and weighs 160 lbs. It occupies 2 square feet of floor space and has

(Continued on page 110)

FIRST CLASS
PERMIT No. 18
Sec. 34.9, P. L. & R.
Philadelphia 39, Pa.

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Chilton's MOTOR AGE

Chestnut and 56th Sts.

Philadelphia 39, Pa.

Attention: Frank P. Tighe, Editor

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Chilton's MOTOR AGE

Chestnut and 56th Sts.

Philadelphia 39, Pa.

Attention: Frank P. Tighe, Editor

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Philadelphia 39, Pa.

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Attention: Frank P. Tighe, Editor

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Chilton's MOTOR AGE Flat Rate and Service Manual

S e r v i c e S u g g e s t i o n s

The information presented here has been compiled from the Factory Service Bulletins, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

Selected by William H. Lutton
Assistant Editor
Chilton's Motor Age Flat Rate and
Service Manual

Sealing Plymouth Transmission Countershaft Front Hole

In the event leakage should occur at the countershaft hole in the front of the Plymouth transmission case, it can be sealed in the following manner:

Clean the hole with gasoline or a solvent and then pack with a liquid gasket compound which hardens. Apply a piece of masking tape over the hole and then allow the compound to set.

Changes in Design of Powerglide Reverse Band

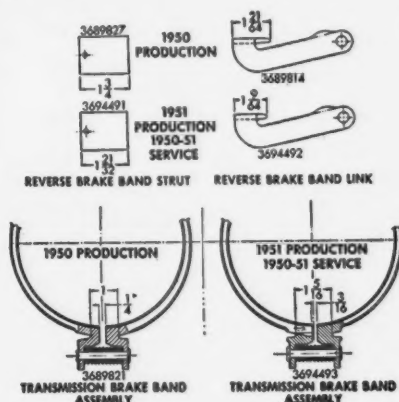
There has been a change in the design of the Chevrolet Powerglide reverse band which provides additional metal at the strut and the link slots at the anchor end. This improvement was made effective with the first 1951 Powerglide transmission and because of this change it necessitated a change in the reverse link and strut.

As shown in the illustration, these new and old parts are not easily identified because of their similarity in dimension and ap-

pearance and it would be well to study this difference.

This new design reverse band is also applicable to both 1950 and 1951 Powerglide transmissions and when making replacement on 1950 models it is necessary to also replace the reverse band link and strut.

Caution: The reverse brake band and strut assembly should still be installed as before, with the thin end of the band away from the piston.



The following parts are affected due to the above mentioned design changes and are: 1. Reverse band assembly, old #3689821, new #3694493; 2. reverse band strut, old #3689827, new #3694491; 3. reverse band link, old #3689814, new #3694492.

New Wheel Plug Prevents Wheel Disc Rattles

A new metal wheel plug is now available for Pontiac cars, designed to plug the area between the

wheel spokes on all models equipped with deluxe chrome wheel rings. This plug closes the area between the wheel spokes and eliminates the possibility of stones entering the area behind the wheel disc, which results in some annoying rattles. Part number is #514896.

Rear Spring Rear Shackle Rattle on Nash Rambler

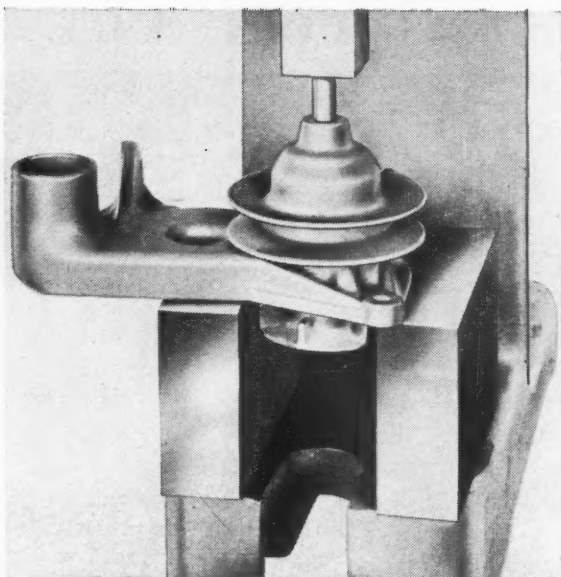
Some cases have been reported on 1950-51 Rambler Series of the rear spring rear shackle metal bushing breaking loose in the body side sill and causing a metallic rattle. This can be remedied by disassembling the rear shackle from the side sill and removing the rubber bushings. Each end of the bushing must then be brazed or welded to the side sill around its entire circumference.

Ignition Wiring Methods On P-19 and P-20 Plymouths

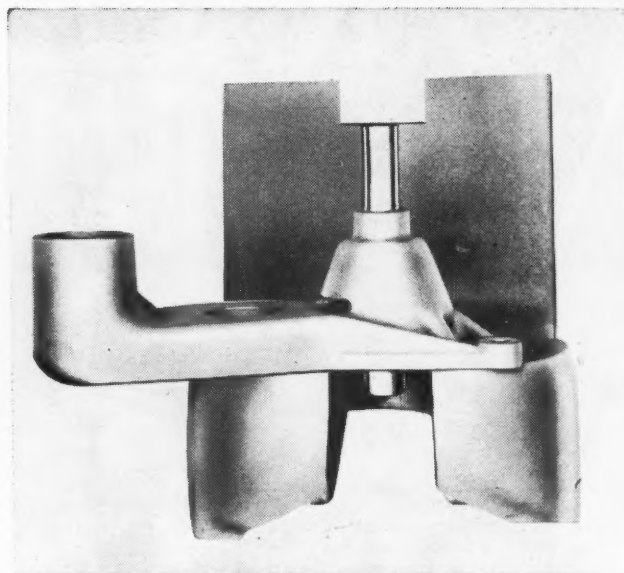
There are two different methods of wiring used to wire the ignition circuit on a Detroit built P-19 and P-20 Plymouth car. Both wiring hook-ups are perfectly satisfactory in performance and do not involve any other change in the car.

Here are the differences: With one circuit the wire goes from the ignition switch to the rear stud on the ignition coil. With the other circuit the wire goes from the ignition switch to the ignition stud on the horn relay and then to the rear stud on the ignition coil.

(Continued on page 124)



1. Removing the pulley from the shaft on press.

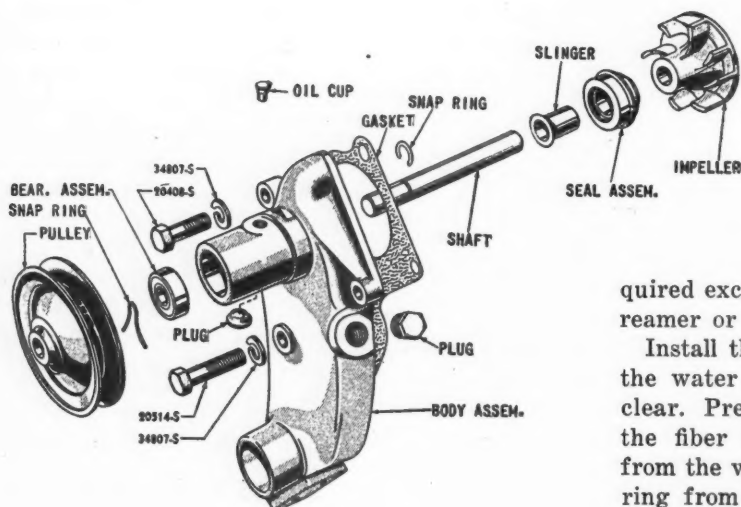


2. Pressing the old bushing out of the pump housing.

by Jack Montgomery
Technical Editor

Reconditioning the

FORD



6. Exploded view of the 1949-'51 Ford V-8 pump.

OVERHAULING water pumps can increase any shop's profits. The time it takes to overhaul a pump is usually about one and a half hours at a price of \$5.50.

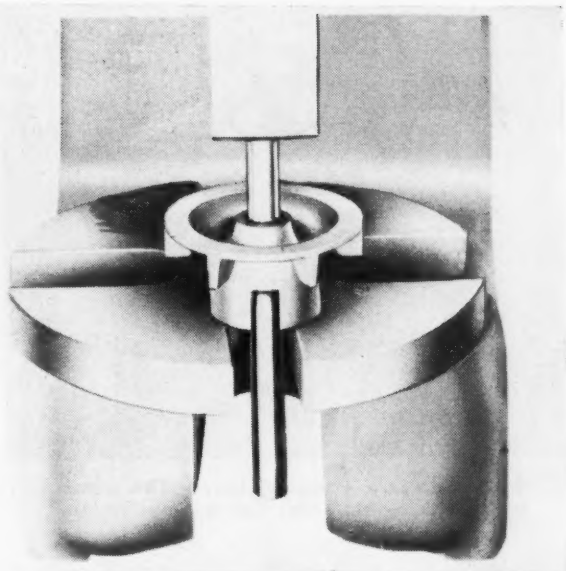
Since every part except the housing is renewed, the rebuilt unit can be guaranteed the same as a new pump. No special tools are re-

quired except the arbor press and sometimes a reamer or reseating tool is needed.

Install the pump in an arbor press and block the water pump body so that the impeller is clear. Press the pulley off the shaft. Remove the fiber thrust washer, impeller, and shaft from the water pump housing. Remove the snap ring from the impeller and the carbon washer, rubber seals, clamp rings, spring guide and spring from the impeller end shaft. All parts except the seal should be cleaned thoroughly and the water pump housing checked for cracks or damage. Examine all parts for wear and corrosion. It is advisable to use an overhaul kit which includes the seal, shaft and impeller.

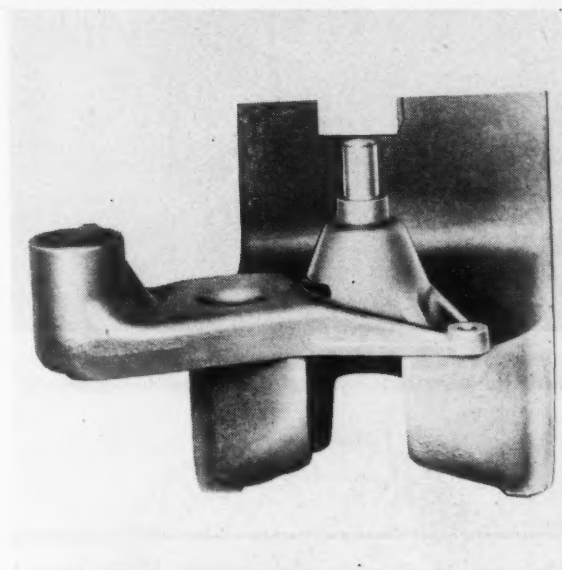
To remove the bushing from the housing, install the pump housing in the press. Press out the old bushing and install the new one until it is flush with the end of the housing. Then ream it .500 inch.

If the pump is of the roller bearing type, sup-



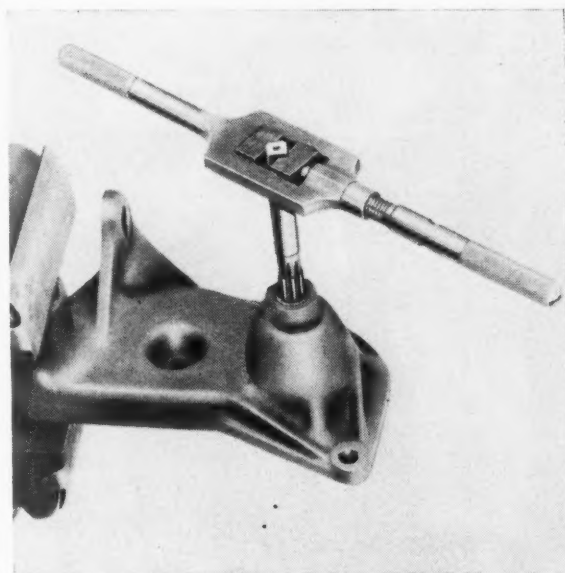
3. Using the arbor press to force the shaft from the impeller.

Here's how to make worn water pumps like new again on Ford and Mercury from '37 to '51



4. Installing the new bushing in the pump housing.

5. Reaming the pump bushing to size before installing the shaft.

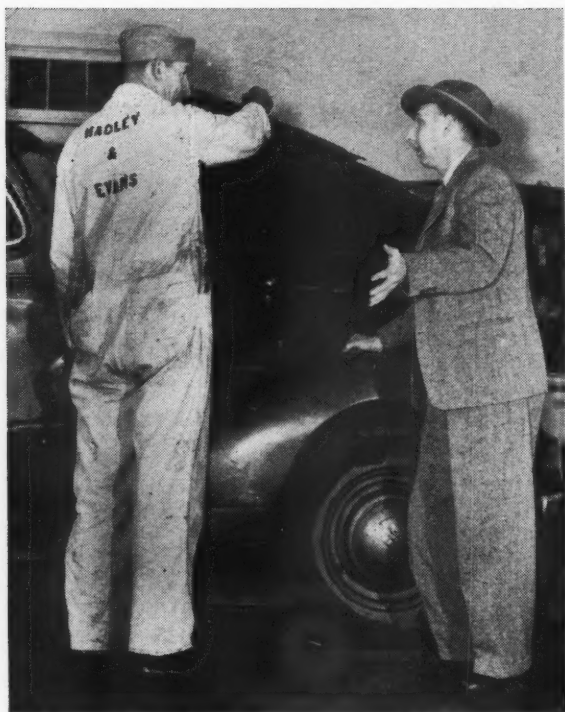


WATER PUMP

port the pulley only in the press and force out the shaft complete with the pump body. Then support the body on its front end and force the shaft out of the impeller and body. If the bearing has excessive side or end play or tends to stick, replace the bearing and shaft. If the old pulley is to be used, it should be pressed on and then drilled and pinned to prevent its working loose.

Water pump failures can be minimized greatly by proper care of the cooling system. The system should be flushed at least twice a year and a rust inhibitor added.

Most water pumps use sealed bearings and require no lubrication. Except on the Ford type, they are lubricated through passages supplied by the crankcase oil. When pump trouble is suspected, check the shaft and the bushings for wear by loosening the fan belt and work the pulley up and down. If any play is felt at this point, remove and overhaul the pump.



1. "There's a miss in my motor—don't think it's anything serious, but I thought it better be checked."



2. "Can you spare a minute boys? This gentleman has problems that call for a consultation."

Care Cures Cranky Car

This customer was worried about how much care it would take to save his car.

5. "I know it! It's a cracked block! And they hate to tell me! Why did I ever worry about that miss!"



6. "Great Scott! This is terrible! I'll have to hock the family jewels to pay for it!"





3. "It's nothing serious, really," the customer thinks hopefully. "Wish I could see what they're doing."

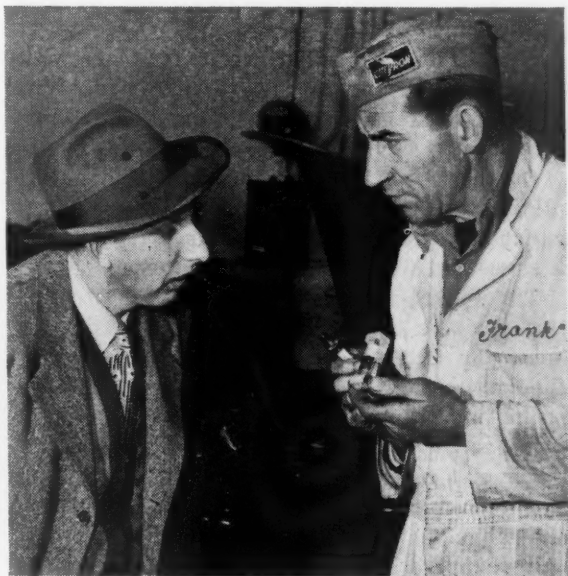


4. The car owner's curiosity grows. Did he hear a muttered word about a shorted coil, How bad is that?

Preventive maintenance could have eased his mind



7. "Your trouble is a dirty spark plug. The expenditure of 75 cents for a new one will be worth while."



8. Congratulations are in order all around—to the mechanics for their services and to himself for his financial good fortune. Away he goes, a happy man.





Keep Your Customers Cars

A Maryland dealer tells about his experience with a card record system

WE at Divver Motor Company, are using a "visible" record system that details every repair on a customer's car from the time the car was bought until the time it is traded in. It presents at a glance a concentrated history of every car serviced by our shop.

First, a glance at the card enables our service salesmen to discuss the customer's car intelligently with regard to preventive maintenance. We know what has been done on the car and what services it is likely to require shortly. Secondly, it helps us to analyze car trouble. A review of previous trouble spots furnishes clues in our checkup. It gives us a working background against which to diagnose troubles, in the same manner that a doctor pulls a patient's record card from his files and examines the clinical history.

Discussing with a customer precisely what has been done with his car to date contributes a feeling of personal interest in his particular

car. It makes a customer feel you know his car. The record system builds customer confidence in us.

No discussion of a car ever takes place without first referring to this service card. With the card in front of us we can handle telephone inquiries on a customer's car more intelligently.

Furthermore, it prevents overselling or duplicating a service that was recently performed which may not now be necessary. In this way it saves a customer's dollars on upkeep.

The salesmen use it as a guide for prospective new car buyers. Studying the cards they know the age, repairs, mileage and condition the car is likely to be in, and have a basis for promoting the purchase of a new car.

It has proved invaluable to the prospective buyer of a used car who may turn to our files, learn what the history of that car has been and what has been done to it.

Here are a few typical occurrences in our



The parts department of the Divver Motor Company, which is manned by a manager and two counter-men.

[illegible]

A sample record card. Notice that a column is devoted to each of the most common operations.

On Record

used in his service department

shop illustrating the advantages of our record system.

One man sent his car into the shop with a list of services prior to a contemplated trip.

Among other things he listed repacking the front wheel bearings, repacking the universal joint and front end alignment. These three items had been taken care of only a couple of months earlier, the record showed. The record indicated this work was not necessary, thus saving him time and expense.

The record system protects the customer as well as ourselves. Last October a customer had a water pump replaced on his car. We noted on the card that the cooling system was checked a couple of months later, and in January the water pump went bad. Under other circumstances this might have meant going through many repair orders. Here at a glance the difficulty was obvious. Still within the warranty period, the water pump was replaced without



A customer looks on as Paul B. Divver demonstrates the visible card record system.

by Paul B. Divver

President, Divver Motor Company Inc.

charge, to the customer's great satisfaction.

Customers are pleased with the visible card system. One of our regular customers who moved to another city requested a complete transcript of the repair history on his car so that the new repair shop he was going to would have a working basis for future repairs.

There is one other advantage that our customers avail themselves of from time to time: the ease of computing all maintenance expense on the car over a period of time. This is of great help where cars are used for business purposes and maintenance costs are considered in tax reports. We find that many indi-

(Continued on page 98)

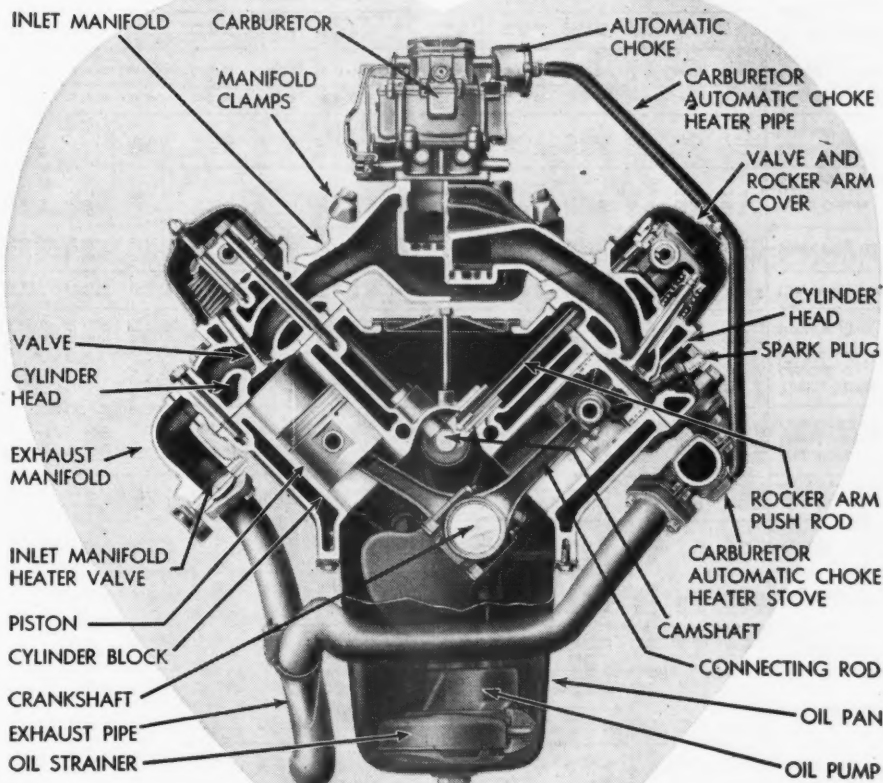
Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment excluding the fifth tire and tube as of June 30, 1951. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					DE SOTO:					KAISER					PACKARD (Continued)				
Special 40					De Luxe					Special					Tour. Sed., 4d.	2770	184	2954	3842
Bus. Coupe, 2d.	1707	124	1831		Club Coupe.	1905	106	2011	3443	Bus. Coupe.	1817	118	1935	3061	400-2406				
Spt. Coupe, 2d.	1759	127	1886	3570	Sedan, 4d, 6 p.	1916	106	2022	3538	Sedan, 2d.	1973	126	2099	3106	Tour. Sed., 4d.	3351	218	3569	4082
Sedan, 2d.	1790	129	1919		Carry-All.	2114	117	2231	3653	Sedan, 4d.	2022	128	2150	3126					
Sedan, DeL., 2d.	1831	132	1963	3585	Sedan, 8 p.	2585	142	2727	4010	Traveler, 2d.	2071	131	2202	3210					
Sedan, 4d.	1841	132	1973	3575	Custom					Traveler, 4d.	2120	133	2283	3270					
Sed. DeL., 4d.	1882	134	2016	3650	Club Coupe.	3081	115	2196	3553	De Luxe									
Sed. Rivra., 2d.	1918	136	2054	3615	Sedan, 4d, 6p.	2098	116	2214	3653	Sedan, 2d.	2081	131	2212	3151	PLYMOUTH				
Conv. Cpe., 2d.	2215	151	2366	3800	Sportman	2381	131	2512	3728	Club Coupe.	2100	133	2263	3111	Concord, P22				
Super 50					Convertible.	2469	138	2605	3808	Sedan, 4d.	2129	134	2283	3171	Coupe, 3p.	1318	76	1394	2893
Sed. DeL., 2d.	1929	146	2075	3655	Station Wagon.	2626	145	2771	3928	Traveler, 2d.	2178	137	2315	3285	Sedan, 2d.	1437	82	1519	2943
Sed. Rivra., 2d.	2024	152	2176	3735	Sedan, 4d, 8p.	2767	152	2919	4120	Traveler, 4d.	2227	139	2366	3345	Suburban	1775	102	1877	3098
Sed. DeL., 4d.	2025	151	2176	3725	Suburban.	3075	169	3244	4360					Savoy	1878	107	1985	3158	
Sed. Rivra., 4d.	2095	155	2250	3815										Cam'dge, P23					
Conv. Cpe., 2d.	2352	169	2521	3935	DODGE:					LINCOLN				Club Coupe.	1461	85	1546	3033	
Estate Wag., 4d	2711	187	2898	4070	Wayfarer					Sed. 6p.	2399			4065	Sedan, 4d.	1493	86	1579	3078
R'dmastr. 70					Coupe, 3p.					Spt. Sedan.	2445			4130	Cran'bk, P23				
Sed. Rivra., 4d.	2616	198	2814	4210	Roadster, 3p.					Lido.	2589			4100	Sedan, 4d.	1543	88	1632	3048
Cpe. Rivra., 2d.	2703	203	2906	4205	Sedan, 2d.					Cosmopolitan					Sedan, 4d.	1569	89	1658	3083
Conv. Cpe., 2d.	2827	210	3037	4325	Meadowbrook					Sed. 6p.	3039			4340	Belvedere.	1820	103	1923	3156
Estate Wag., 4d	3268	232	3500	4440	Sedan.					Spt. Sedan.	3091			4415	Cv. Ch. Cpe.	1913	108	2021	3268
					Convertible.					Capri.	3255			4360					
					Sierra.					Convertible, 6p.	3783			4515					
					Sedan, 4d, 8p.														
CADILLAC					FORD					MERCURY					PONTIAC				
Series 62					De Luxe 6					Coupe, 6p.	1884			3485	Chieftrain 6				
Coupe.	3015	193	3208	4050	Bus. Coupe.	1259			2985	Spt. Sedan.	1935			3550	Bus. Coupe.	1485	111	1596	3167
Sedan.	3097	197	3294	4040	Tudor.	1348			3010	Monterey.	2048			3530	Sed. Coupe.	1605	117	1722	3197
Cpe. de Ville.	3379	212	3591	4120	Fordor.	1394			3080	Monterey.	2058			3530	Sedan, 2d.	1805	117	1722	3217
Convertible.	3507	218	3725	4340	Station Wagon.	1932			3515	Convertible.	2305			3760	Sedan, 4d.	1654	120	1774	3247
Series 60					De Luxe 8					Stat. Wag., 2d.	1755	116	1871	2409	DeL. Sed. Cpe.	1698	122	1820	3202
Sedan.	3635	236	3871	4200	Bus. Coupe.	1343			3005	Statem'n DeL	1623	116	1739	2810	DeL. Sed., 2d.	1698	122	1820	3217
Series 75					Tudor.	1420			3050	Stat'mn. Supr.	1700	121	1821	2905	DeL. Sed., 4d.	1747	125	1872	3247
Sedan, 8p.	4565	296	4861	4690	Fordor.	1466			3120	Sedan, 2d.	1723	121	1844	2910	DeL. Cata. Cpe.	1904	133	2037	3317
Imperial.	4749	305	5054	4710	Club Coupe.	1514			3050	Club Cpe., 2d.	1726	121	1847	2945	Sup. Cata. DeL.	1960	136	2096	3327
					Tudor.	1509			3050	Sedan, 4d.	1880	130	2010	2965	DeL. Conv. Cpe.	2022	140	2162	3462
					Club Coupe.	1514			3040	Stat'men Cust.	1854	130	1984	2915	Streamliner 6				
					Fordor.	1555			3120	Sedan, 2d.	1877	130	2007	2965	Sed. Coupe.	1585	116	1701	3222
					Victoria.	1835			3162	Club Cpe., 2d.	1877	130	2007	2965	DeL. Sed. Cpe.	1677	121	1798	3237
					Conv. Coupe.	1858			3280	Sedan, 4d.	1880	130	2010	2965	Station Wagon.	2157	147	2304	3575
					Station Wagon.	2009			3555	Ambassador					DeL. Sta. Wag.	2234	151	2385	3495
										Super					Chieftrain 8				
										Sedan, 2d.	2032	142	2174	3341	Bus. Coupe.	1552	115	1667	3247
										Club Cpe., 2d.	2054	142	2196	3341	Sed. Coupe.	1677	121	1793	3277
										Sedan, 4d.	2058	142	2200	3381	Sedan, 2d.	1679	121	1793	3302
										Custom					Sedan, 4d.	1721	123	1844	3337
										Sedan, 2d.	2186	151	2337	3351	DeL. Sed. Cpe.	1764	126	1890	3292
										Club Coupe.	2208	151	2359	3366	DeL. Sed., 2d.	1764	126	1890	3307
										Sedan, 4d.	2212	151	2363	3416	DeL. Sed., 4d.	1814	128	1942	3347
															DeL. Cata. Cpe.	1971	137	2108	3402
															Sup. DeL. Cata.	2027	140	2167	3407
															DeL. Conv. Cpe.	2089	143	2232	3542
															Streamliner 8				
															Sedan Coupe.	1651	120	1771	3317
															DeL. Sed. Cpe.	1744	125	1869	3332
															Station Wagon.	2223	150	2373	3670
															DeL. Sta. Wag.	2300	154	2454	3600

† Prices do not include delivery and handling charges.

Here's the heart of that sensational new Studebaker valve-in-head V-8 engine



It's an engine with a terrific wallop!
It's a penny-pincher with gas!

NEW STUDEBAKER COMMANDER V-8

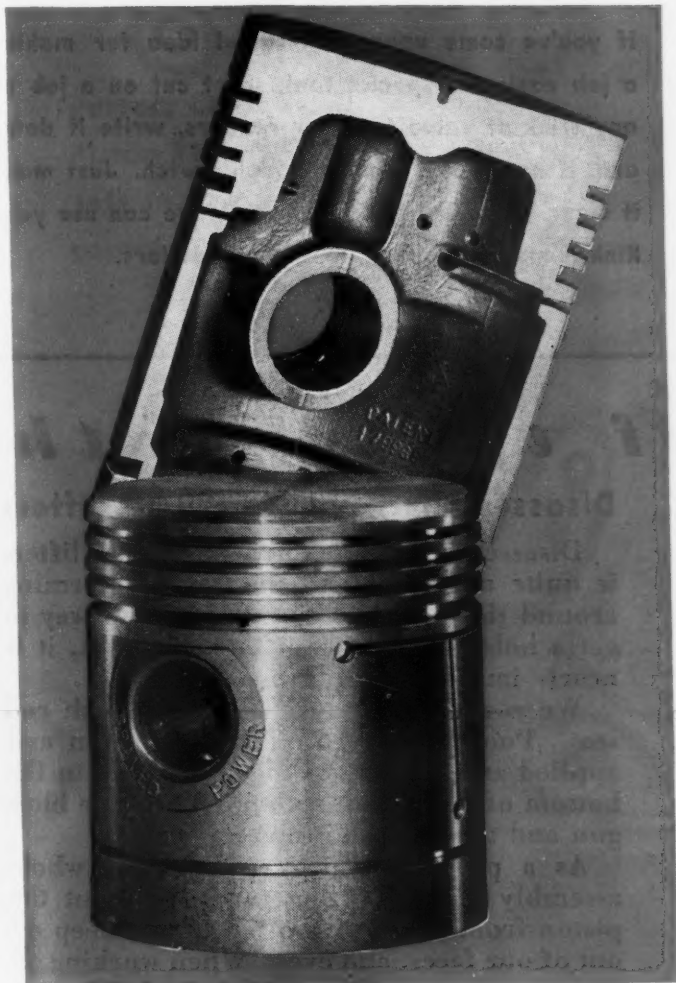
THE 1951 WONDER CAR! A 120-HORSEPOWER DRIVING THRILL!

Current Engine and Tune-up Specifications

64

MAKE AND MODEL	ENGINE					TUNE-UP DATA										STEERING										
	Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable Hp.	Piston Displacement (Cu. In.)	Maximum Brake Hp. (at Specified R.P.M. with Bare Engine)	Compression Ratio	Spark Plug	Rings		VALVES		IGNITION		Cooling System Capacity (Gals.)	Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination (Deg.)								
								No. and Width	No. and Width	Inlet	Exhaust	Operating Tapet Clearance	Inlet Valve Timing						Timing Marks	Breaker Point Gap	Spark Plug Gap	Spark Occurs	Timing Marks	Timing		
																									Seat Angle	Stem Diameter (In.)
Buick Special 40 121 1/2	8-3 1/2 x 4 1/2	32.5	263.3	120-3600	6.6	114	AC-46X	2-3/8	2-3/8	45	HA	HA	13BT	None	None	0.025	4BT	Fly	A 5 1/2	12	+1/2 to +1 1/2	+1/2 to -1/2	4 1/2			
Buick Super 50 121 1/2	8-3 1/2 x 4 1/2	32.5	263.3	124-3600	6.9	118	AC-46X	2-3/8	2-3/8	45	HA	HA	13BT	None	None	0.025	4BT	Fly	A 5 1/2	12	+1/2 to +1 1/2	+1/2 to -1/2	4 1/2			
Buick Roadmaster 70 126.2	8-3 1/2 x 4 1/2	37.8	320.2	152-3600	7.2	120	AC-46X	2-3/8	2-3/8	45	HA	HA	14BT	None	None	0.025	6BT	Fly	A 7	18	+1/2 to +1 1/2	+1/2 to -1/2	4 1/2			
Cadillac 61, 62, 60 146 3/4	8-3 1/2 x 3 3/4	46.5	331.0	160-3500	7.5	120	AC-46-5	2-3/8	2-3/8	44	HA	HA	24BT	None	None	0.035	5BT	VD	A 5	18	+1/2 to +1 1/2	+1/2 to -1/2	5 51'			
Cadillac 61, 62, 60 146 3/4	8-3 1/2 x 3 3/4	46.5	331.0	160-3500	7.5	120	AC-46-5	2-3/8	2-3/8	44	HA	HA	24BT	None	None	0.035	5BT	VD	A 5	18	+1/2 to +1 1/2	+1/2 to -1/2	5 51'			
Chevrolet Six, JJ, JK 115	6-3 1/2 x 3 3/4	29.4	216.5	92-3400	6.6	110	AC-46-5	2-1/2	2-1/2	30	HA	HA	18T	Fly	0.021	34	0.035	5BT	Fly	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	4=30'		
Chevrolet Six, JJ, JK 115	6-3 1/2 x 3 3/4	30.4	235.5	105-3600	6.7	110	AC-46-5	2-1/2	2-1/2	30	HA	HA	18T	Fly	0.021	34	0.035	5BT	Fly	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	4=30'		
Chrysler 6, C51-1, C51-2 125 1/2	8-3 1/2 x 4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-3/8	45	HA	HA	12BT	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
Chrysler 6, C51-1, C51-2 125 1/2	8-3 1/2 x 4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-3/8	45	HA	HA	12BT	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
Chrysler 6, C51-1, C51-2 125 1/2	8-3 1/2 x 4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-3/8	45	HA	HA	12BT	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
Crosley Four, CD, VC 80 85	4-2 1/2 x 2 1/2	10.0	44.0	25.5-5400*	8.0	125	CH-J8	2-1/2	2-1/2	45	HA	HA	5BT	VD	0.020	46	0.025	12BT	Fly	B 2	4	7 1/2	+1/2 to +1 1/2	6 1/2		
Crosley Four, CD, VC 80 85	4-2 1/2 x 2 1/2	10.0	44.0	25.5-5400*	8.0	125	CH-J8	2-1/2	2-1/2	45	HA	HA	5BT	VD	0.020	46	0.025	12BT	Fly	B 2	4	7 1/2	+1/2 to +1 1/2	6 1/2		
De Soto Six, S-15 126 1/2	6-3 1/2 x 4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-3/8	45	HA	HA	12BT	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
Dodge Six, D-41, D-42 114	6-3 1/2 x 3 3/4	26.1	225.9	95-3300	6.8	110	CH-H10	2-3/8	2-3/8	45	HA	HA	18T	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
Ford Six, 1HA 114	6-3 1/2 x 3 3/4	26.1	225.9	95-3300	6.8	110	CH-H10	2-3/8	2-3/8	45	HA	HA	18T	VD	0.020	34 1/2	0.035	2BT	VD	A 5	15	+1/2 to +1 1/2	+1/2 to -1/2	5 to 6 1/2		
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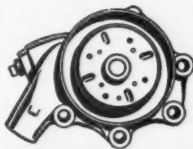
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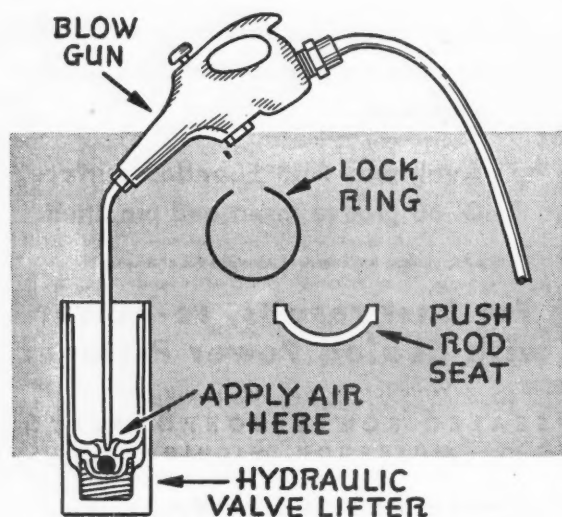
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If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring five, possibly 25 dollars.

Best Kink of the Month



Disassembling Hydraulic Valve Lifters

Disassembling Buick hydraulic valve lifters is quite a job, due to the varnish forming around the bottom. There being no way to get a hold on the piston to pull it out, it is nearly impossible to disassemble these.

We removed the lock ring and push rod seat. Poured out the oil in the piston and applied air pressure to the small hole in the bottom of the piston with a long nozzle blow gun and then out she came.

As a precaution, we covered the whole assembly with a wiping rag to prevent the piston from jumping too far and to keep oil out of our faces, and eyes. When working on the second type lifters merely hold your finger over the oil hole while applying the air. *Lowell Hyde, Roseburg Motor Company, Roseburg, Oregon.*

Short Cut for Removing Henry J Oil Pans

On 1951 Henry J, 6 cylinder only and Willys 6 cylinder cars the factory states that the motor must be pulled to install bearings or rings due to the inability to remove the oil pan. I have found a way to remove this pan without pulling the engine thus cutting the overhaul

time in half.

To remove the oil pan, first drop the pan from the block. Then reach into the engine and remove the oil float. Next remove the oil float bracket and loosen the front motor supports and raise the motor approximately one inch and the pan will slide right off.

When replacing the pan lay the float and the brace in the pan. Slide

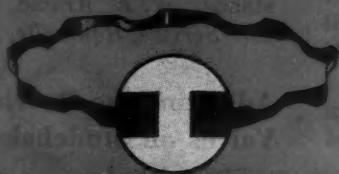
the pan into place and install the float. The pan is then ready to be bolted up. *Robert Russell, Highway Motor Co., Cedar Bluff, Va.*

Making Spline Shafts Fit Tight

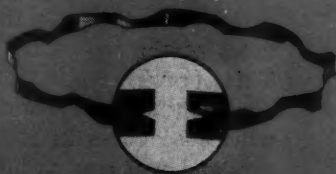
Some time ago I had a 1939 Chevrolet with a bad pinion bear-
(Continued on page 68)

WHY BUY TWO WHEN ONE WILL DO?

Perfect Circle's 2 In 1 Chrome
Piston Ring Set is actually two
sets in one because each set
contains:



NORMAL PRESSURE spring for
rebored and slightly worn
engines. Spring ends are plain.



HIPRESSURE spring for badly
worn engines and known oil
pumpers. Spring ends notched.

NEW CHROME OIL STOPPER
Steel rails plated with Solid Chrome. Alternate
HiPressure spring with every Oil Stopper—at
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Chilton's MOTOR AGE, JULY, 1951



At last! ... it's no longer necessary to switch back and forth between "severe" and "normal" piston ring sets ... to choose between different brands or types ... because Perfect Circle's 2-in-1 Chrome Piston Ring Set gives you the correct spring pressure for every engine condition!

Yes, two expander springs are packed with each Chrome Oil Stopper—a **NORMAL PRESSURE** spring for use in rebored and slightly worn engines, and a **HIPRESSURE** spring for badly worn engines and known oil pumpers!

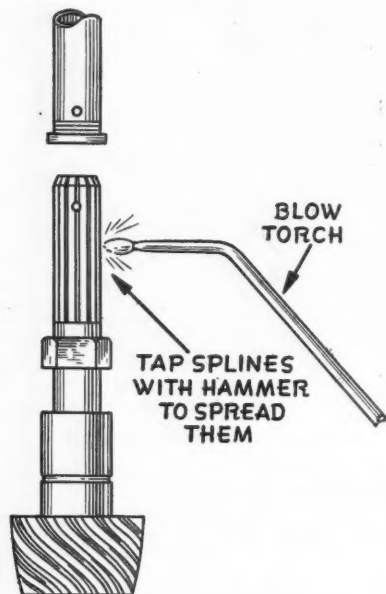
Whether cylinders are slightly or badly worn, tapered or straight, round or out-of-round, the 2-in-1 Set delivers new oil economy and sustained power for thousands and thousands of extra miles.

What's more, Perfect Circle's solid chrome plating on the top compression ring and the steel rails of the oil ring assures more than *twice the life* of pistons, cylinders and rings. No wonder mechanics everywhere are saying it's ...

A SURE BET IN ONE SET for Every Doctor of Motors



ing and a lot of free play in the driveshaft. When I tore it apart the pinion spline and the inside spline were worn badly. I then tried a new driveshaft and still it was loose. The pinion gear was in



good shape. I heated the splines and tapped them with a ball peen hammer to spread them. Then pressed them together and they fit tight. This same method should work on any joint of that design. *Warren LeCrone, LeCrone's Garage, 710 23rd St., Altoona, Pa.*

Salvaging Door Locks On Dodge Truck Cabs

When a Dodge truck door lock latch spring breaks it is not necessary to disassemble the door and replace the lock and link. Simply drill a small hole directly over the latch dog and screw a compression spring into the hole. This will hold the dog down and let it come up when the handle is turned. *Jack Thomas, Thomas Sales & Service, Madras, Ore.*

Special Tool Arrangement for Removing Transmission Bolts

Anyone who does much Chrysler product clutch or transmission work probably has had trouble getting the upper left bolt out of the

transmission. A Chrysler product starter wrench of the type that uses a T-handle will solve the problem. It misses the shifter lever completely and does not require removing the floor boards. *Bill Brown, Millburn Motors, 382 Millburn Ave., Millburn, N. J.*

How to Adapt a Compression Tester for Chrysler V-8 Use

We found after Chrysler came out with the V-8 engine, our old compression tester was not suitable for the job. By adding a 4½ in. piece of ⅛ in. pipe, one ⅛ in. coupling and a slight bend, we could reach down into the plug holes of the V-8. It creates more ease and reading comfort on almost every car on the road. Care should be taken in cutting and installing the threads so that they have an air-tight fit. *Hubert Porter, 405 West 10th Street, Atlantic, Iowa.*

Valve Spring Lifter Used To Raise Seat into Place

On the 1949 and 1951 Chevrolet four-door sedans, to install seat covers, the back of the back rest has to be removed and replaced. I have found the screws are hard to start. By using an L-head valve spring lifter as a jack to raise and hold the back rest in position, it is much easier to keep the seat in place until the screws can be started. *Otto Fugett, 401 West 17th Street, Georgetown, Texas.*

Remove Ford Idler Gear In Half the Usual Time

I found that the idler gear in the 1941-1948 Fords can be removed and replaced quite easily. First remove the floor boards. By raising the front end of the car with a hoist on the bumper arms, you will have enough space to remove the side shift cover. Then remove the pin which holds the idler and cluster shafts. By placing a ⅜ nut behind the idler shaft, you can just put a screwdriver between the nut and the crossmember. This forces the shaft ahead. Now you

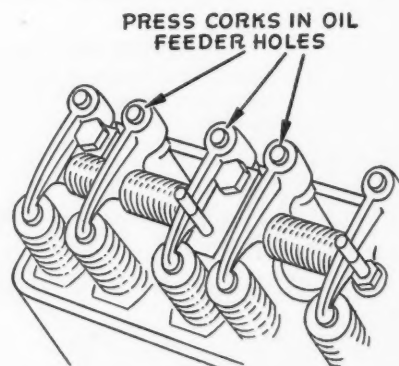
can reach the shaft inside the transmission with pliers, and remove the shaft to free the idler. This process takes about half the time it would ordinarily. *Marion J. Baker, 502 North Pella Street, Orange City, Iowa.*

Wheels Welded to Axle Stands Prevent Tilting

Here is an axle-stand for independent front suspensions. Take a standard axle-stand and four small wheels. Put the wheels on axles, and weld the axles to the stand. For best results, make a pair of them. When the front of the car is raised from the center, the wheels move in. Then set the stands under the lower control arms. When the weight comes down the stands will roll outward and not tilt as is the case with ordinary stands. *W. E. Arnold, Arnold Repair Service, Hahnville, La.*

Adjusting the Overhead Valves on Studebaker

I have found a clean, easy way to set '51 Studebaker V-8 tappets "hot" with the engine running. Get 16 small corks from the drug store similar to perfume bottle corks. Press them in the oil feeder holes at the top of the push rods. This prevents oil from running down on the hot manifold which will cause odors in the customer's car, and will also avoid trouble at the automatic choke assembly caused if oil runs into the "stove" mounted on the exhaust manifold on the left bank. Oil pressure is not sufficient to pop the corks out.



We have been advised that .013 "hot" is a very good setting on these cars. *Ramon Clarke, Central Motors, 703 North Grand St., Pittsburg, Kan.*

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READERS CLEARING HOUSE

Pedal Drops on Plymouth After Clutch Overhaul

We have overhauled three clutches in three 1940 Plymouths. Two of them have been coming back every couple of weeks for a clutch adjustment. One of the cars is driven about a hundred miles a day. On this one we have had to adjust the clutch about every three or four weeks. The other car is driven about twenty miles a day and we have already had to replace the pressure plate assembly and it is reacting the same way. The last mentioned one is the worst of the two. He goes along for a week or two without any trouble and then all at once the clutch grabs at the floor and he can't change gears. It doesn't go down gradually but all at once.

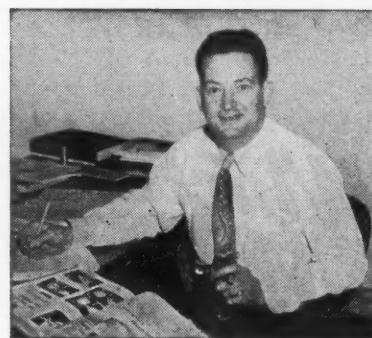
What We Did:

Installed a new clutch disc and pressure plate assembly and a thrust bearing and also all new linkage. The only thing that isn't new is a clutch fork. The clutch disc and the pressure plate assembly is a matched set. Submitted by: William Marziasz, B & S Auto Service, 25 Ayr Street, Central Falls, R. I.

Trouble Shooting Problems

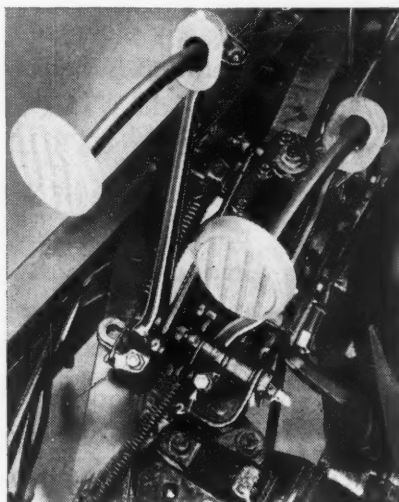
by Jack Montgomery, Technical Editor

- Plymouth clutch pedal drops
- Cadillac idle adjustment problem
- Dodge engine cranks but won't start
- Ford V-8 runs hot at high speeds
- Henry J starter sticks from dampness
- Chevrolet valve tappets too noisy



We Suggest:

In addition to the work you have already done, I would suggest you check the motor mounts. These may be worn and the engine maybe riding back and forth, which in time would cause the peddle to fall. The reason for that



pedal falling is either that the motor is moving in the frame or there is too much end play in the crankshaft. But I believe it is from the motor mounts rather than the crankshaft end play. Since you didn't replace the clutch fork I was wondering if the fork is worn in the socket or perhaps may be weak. This would cause it to spring and let the pedal fall.

Idle Adjustment Problem On Dual Carburetor Cadillac

1949 Cadillac is impossible to idle below 600 because the engine will not idle slower, although the car idles perfect with one carburetor.

What We Did:

We have tried everything and have decided that the carburetors are not sufficiently machined to prevent air from passing the throttle plates, thus causing the engine to race. We installed a series 61 engine, a full race cam, milled the heads .060 and also put in a dual carburetor Edmunds riser manifold. Submitted by: S. D. Egidio, Santi's Inc., 1142 F Street, Fresno, Calif.

We Suggest:

Remove these carburetors and check the butterfly valve where it seats in the throttle bore. Sometimes these valves do not seat correctly and this causes the engine to idle improperly. If you loosen the butterfly and then back off on the idle adjusting screw so that they center themselves in the bore, perhaps your trouble will be taken care of. Also check and make sure that there are no air leaks around

(Continued on page 72)

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Van Dorn gives you all the *extras* you want in a Drill to speed up work, cut costs, boost profits on many body and engine jobs! *Extra* choice of 25 models with capacities ranging from $\frac{1}{4}$ " to $1\frac{1}{4}$ " in steel. *Extra* power from husky Van Dorn-built universal motors. *Extra* operating ease from streamlined design and perfect balance. *Extra* life from tough, longer-wearing parts. *Extra* accuracy from high-quality construction. See your nearby Van Dorn Distributor for demonstrations. Write today for free, detailed catalog to: THE VAN DORN ELECTRIC TOOL CO., 727 Joppa Road, Towson 4, Maryland.

For Power Specify



Portable Electric TOOLS

(Div. of Black & Decker Mfg. Co.)

Installing Accessories

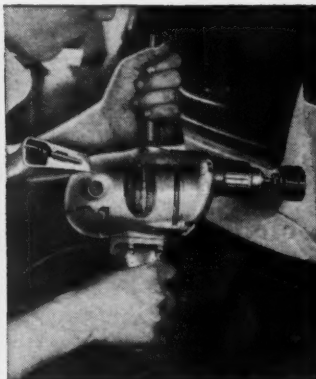
VAN DORN ELECTRIC DRILLS drive twist drills, wood augers, hole saws, cylinder hones, wire wheel brushes, carbon removing brushes, valve guide cleaners—for such jobs as installing accessories, drilling out broken bolts and studs, cleaning valve guides, honing cylinder walls, removing carbon from engine parts. **VAN DORN BENCH DRILL STANDS** convert them into powerful drill presses for bench work.



Drilling Out Broken Bolts



Honing Cylinder Walls



Installing Back-up Lights



Removing Carbon

the flange gaskets. Use some good type sealer to seal these gaskets. And check each carburetor individually to make sure that there isn't one that might be leaking. To check for leaks squirt a little kerosene around the throttle shaft and around the flange gaskets to see if they are sucking air at any of these points.

Dodge Turns Over, but Won't Start Without a Push

We have a 1946 Dodge that will start properly for two or three days and sometimes one or two weeks, and then all of a sudden it will not start until you give it a push. After that it will start again. The starter turns the motor

over but the motor will not start. The battery is good.

What We Did: We checked the coil and condenser. We put in new points, checked the wires, distributor cap and rotor. We checked the compression and manifold for leaks. Checked the float level and carburetors. Examined the switch and tightened all the wires from the battery to the distributor. We put new wires inside the distributor. Finally we tested the automatic choke, and do not know whether there is anything left to check. Since we did this, the customer took the car to another shop which put in a new set of plugs and checked the car all over but this morning the owner had to get the car pushed to start it again. All this trouble developed in the last two months. Before this the car was O.K. I re-checked the spark, it was very good. I checked the carburetor, it was full of gas. When I pumped the gas pedal the gas would shoot out of the pump, but the car would not start. Took off the carburetor and looked to see if the manifold was blocked but it was O.K. I put the carburetor on and the car started fine. I gave it to the customer and the next day it had to be pushed again. Can you help me? Submitted by: Don's Garage, Roslyn, Pa.

We Suggest . . .

After carefully studying the trouble you are having with the
(Continued on page 74)



BURD SUPER HI-SPEED PISTON RINGS CORRECT WORN CYLINDER CONDITIONS by restoring power and compression—positively controlling oil. Try them on your next tough job!

TODAY'S TREND IS TOWARD 2-Way Oil Control

And why not? You install Super Hi-Speed Combination Sets to eliminate oil pumping in badly worn cylinders. Then for even stronger oil control insurance you install Burd Valve Packing to stop leaks from worn guides and stems. Certainly it's a wise move by any mechanic to use this easy and effective combination treatment. Try it yourself. Install both Burd products.

BURD VALVE PACKING STOPS OIL LEAKS FROM WORN STEMS AND GUIDES by keeping oil in the guide—out of the combustion chamber. Easy to install in any make or model!



BURD PISTON RING COMPANY

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Use Certified Air Service and build **SALES**

Preventive service—the basis of Schrader's Certified Air Service Plan... makes "free air" your ticket to profit. Certified Air Service is a new idea in sales-through-service that enables you to use your airlines as a starting point for making new steady customers and getting more business from your regular trade.

Thousands of dealers are beginning this timely new service. If you haven't already started, all you need is the new, specially low-priced Schrader #530-U "Certified Air Service" Merchandising Unit. It contains the products, signs and instructions, including the finest Schrader Gauge (#8106B Trutest Special), 50 #880MB Valve Caps, 50 #4000 Valve Cores, 5 #5050 Gauges and the new Manual that shows how to start to profit the easy way. Get your #530-U Merchandising Unit from your supplier today!

A. SCHRADER'S SON, BROOKLYN 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

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FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

SUMMER DRIVING MEANS INCREASED TUBE REPAIRS
Be sure you're all set to cash-in
with these Genuine Schrader Products



A \$15.23 value for \$13.13
dealer U. S. A.

Schrader
#530-U
Merchandising
Unit

Clearing House Continued from Page 72

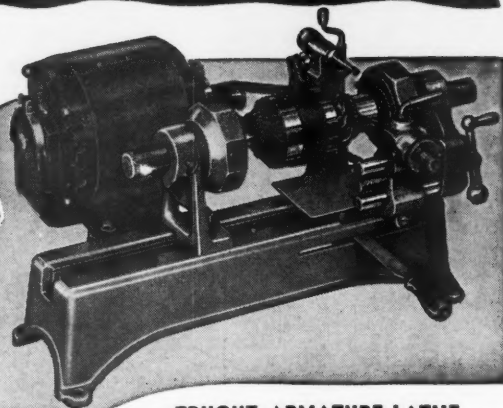
starting of the '46 Dodge, I am inclined to believe that the trouble will be found in the ignition switch. I think that if you will check this carefully, you will find that there is a bad electrical contact. The result is that you are not getting current to the ignition system at all times. However, in addition, I would make a very

thorough check of the battery and engine grounds to make sure they are in good electrical condition. Also make sure the distributor shaft bushing is not badly worn and that the battery is fully charged. Also make sure the starter itself and starter button are in good condition. See that the bushings are not worn so that

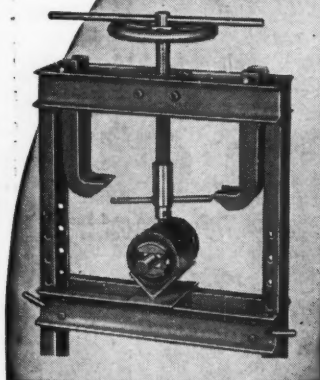
the armature will not drag on the field poles. This causes the current to be drawn away from the ignition system. It is, in effect, a dead short within the system.

THIS TRUCUT PACKAGE REALLY PUTS YOU IN BUSINESS!

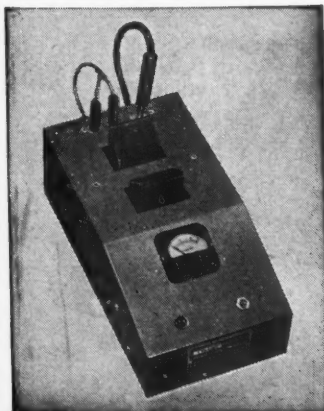
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Starter-Generator
Work!



TRUCUT ARMATURE LATHE
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TRUCUT ARMATURE TESTER

There's plenty of extra profit in starter-generator work . . . if your shop is equipped to handle it!

And you can handle it with these three TRUCUT tools . . . all tried and tested . . . all designed especially for automotive repair jobs! With them, you can machine and undercut commutators perfectly; test for shorts, open circuits, and grounds; make quick, easy work of dismantling and assembling generators. The TRUCUT Press is also useful on dozens of other jobs around your shop.

This TRUCUT package actually pays for itself in an amazingly short time. Enables you to handle work you are now sending out . . . or helps you to do it more quickly and profitably! Write for free details and catalog M7, today.

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... SINCE 1923
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344 W. Main Street • Waukesha, Wisconsin
Pacific Coast Address
1330 W. Olympic Blvd., Los Angeles 15, Calif.

Tune-Up Information on Model A Fords

Tappet Clearance: Inlet .010-.013 in. cold. Exhaust .015-.017 in. cold.

Valve Timing: With No. 1 inlet tappet set to .010-.013 in. inlet opens 7½ deg. or just over 2 flywheel teeth before T.C. When installing timing gears line mark on camshaft sprocket with the tooth marked Ford on the crankshaft gear.

Car Serial and Engine Numbers Located: Left side of engine above water intake.

Interrupter Point Gap: .018-.022 in.

Spark Plugs: Champion 3X colder; Warmer C4. Set to .035 in. (high compression) head .025 in. standard head.

Ignition Timing: With manual control fully retarded spark occurs at T.C. Use D.C. indicator timing gear case.

Firing Order: 1, 2, 4, 3.

Number of Teeth in Flywheel: 112.

Oil Capacity Crankcase in Qts.: 5.

Compression Gage Pressure: Std. 61 lbs. Opt. 81 lbs. at cranking speed.

Ford V-8 Runs Hot At High Speeds

We've had trouble with a 1947 Ford V-8 which runs hot.

What We Did:

We had the radiator cleaned. New hoses and one new pump were installed. The distributor was overhauled and the carburetor cleaned and repaired. Submitted by: Robert E. Lawrence, 1513 Clay Avenue, Waco, Texas.

We Suggest . . .

Double check the ignition timing and if the radiator wasn't disassembled when cleaned, take the radiator back to have the tanks removed and have the core rodged out. I would suggest that you mix a 10 percent solution of hydrochloric acid and leave it sit in the block overnight with the radiator disconnected. Then in the morning flush it out. When installing the water add a good rust inhibitor.

(Continued on page 76)

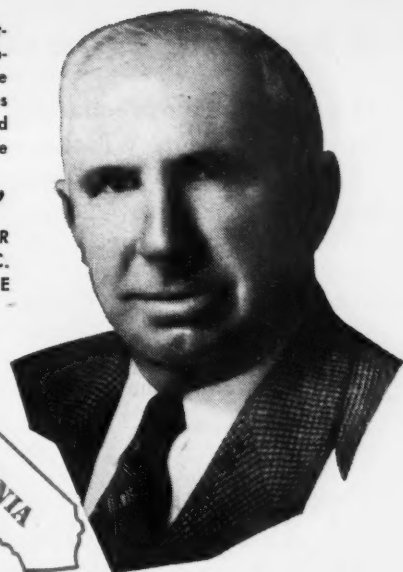


"The Auto-Lite Spark Plug line with an outstanding sales leader like the famous Auto-Lite Resistor Spark Plug is the best bet we have to offer our dealers. Auto-Lite sales have climbed steadily over last year and they're still going up . . . it's a great line for building profits!"

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R. I. MITCHELL, INC.
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"Out here on the coast, we realized long ago the advantages of the Auto-Lite Spark Plug line. Where else can we get a deal that has so many top-notch features to pass on to our dealers? Auto-Lite is showing us how to make real profit."

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PRESIDENT
HENDERSON BROS.
SACRAMENTO, CALIFORNIA



FROM MAINE TO CALIFORNIA JOBBERS ARE SAYING:

When the chips are down **AUTO-LITE** *is the line*

...because Auto-Lite gives you the only complete line of spark plugs for maximum sales!

Plus the best advertised name in the automotive after-market — sensational, big-time radio and television "Suspense!" shows — colorful national ads in America's leading publications — exclusive AAA tie-in — coast to coast highway signs — a big, ready-made market of Auto-Lite equipped cars — sure-fire promotion and tie-in material — everything needed to draw new customers in — make 'em buy.

You'll find it pays to be an Auto-Lite Registered Service Dealer (RSD) . . . pays in sales . . . in volume . . . in maximum profit. Only Auto-Lite gives you a complete spark plug line—the Standard Spark Plug, ignition engineered to give unbeatable performance . . . the Transport Spark Plug for lowest cost per mile of spark plug operation in heavy-duty service . . . the Resistor Spark Plug with new advantages. Capitalize on this profit-making deal that only Auto-Lite offers. See your jobber or write to

THE ELECTRIC AUTO-LITE COMPANY
Toledo 1, Ohio Merchandising Division Toronto, Ontario

AUTO-LITE SPARK PLUGS

Auto-Lite Spark Plugs—Patented U.S.A.



RESISTOR

STANDARD

TRANSPORT

All 3 have been selected by leading automotive engineers as original factory equipment on millions of America's finest cars, trucks and tractors.

Tune in "Suspense!" . . . CBS Television Tuesdays



Clearing House Continued from Page 74

Henry J Starter Mechanism Sticks in Damp Weather

A new Henry J has continually had starter trouble. The starter drive gear won't engage to the engine flywheel. It usually happens in rainy or muddy weather the starter drive gear becomes stuck to the armature shaft. We have also found that the clutch

linkage gives the same trouble under these same conditions.

What We Did:

We have taken the starter off on about six different occasions to oil and free the drive gear but the trouble is back again in rainy weather. We have used oil, graphite grease, solvents, but still no

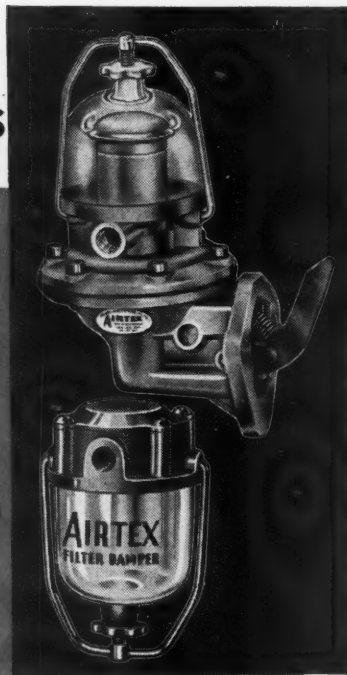
permanent repair. Light oil and working clutch peddle frees the clutch. **Submitted by:** Arthur Koltveit, Cornell Motors, Cornell, Illinois.

We Suggest:

On your Henry-J that is giving you trouble with the starter and also the clutch shaft sticking, I would suggest that you drill a

R PRESCRIPTION for AILING FUEL SYSTEMS

Install new
AIRTEX
FUEL PUMPS
and anti-pulsation
FUEL FILTERS



MAKE A SALE! Millions of your customers have seen the powerful Airtex story in The Saturday Evening Post. Stock Airtex—Show Airtex—Sell Airtex.

MAKE A FRIEND! Airtex fuel pumps and Anti-Pulsation filters are equipped with the famous Airtex diaphragm, guaranteed for 50,000 miles—flexes instantly at 30° below zero and top engine heat—faster get-away—easier starting.

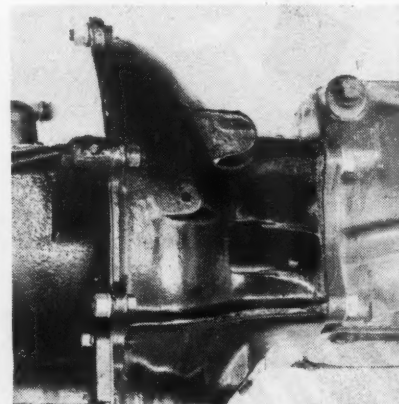
MAKE A PROFIT! Airtex provides a core trade-in allowance on new pump purchases, 25c on singles—50c on duals.



AIRTEX

AUTOMOTIVE DIVISION
World's Largest Independent Fuel Pump Manufacturer
BATHING, ILL.

ADVERTISED
IN THE
**Saturday
Evening
Post!**



couple of holes in the flywheel housing to act as a ventilator; two on the right side and two on the left side. This will prevent moisture from forming on the inside of the housing.

Valve Tappets Noisy On 1941 Chevrolet

We're having trouble with noisy tappets in a 1941 Chevrolet.

What We Did:

We set tappets at .008 and .015 in. hot. Still unable to get rid of the tapping sound. **Submitted by:** Vincent E. Daniel, Anderson Oldsmobile, Inc., 114 W. North Avenue, Baltimore, Maryland.

We Suggest . . .

On your 1950 Chevrolet with engine tappets that are noisy, I would suggest after the engine is thoroughly warmed set the tappets to .007-.013 instead of .008-.015. Also some of the boys have been using an undercoating on the top of the valve cover which helps in eliminating the noise. Some of these cars have a vibration in the throttle rod; the rod from the accelerator to the manifold. Chevrolet has improved this rod by adding a rubber sleeve.

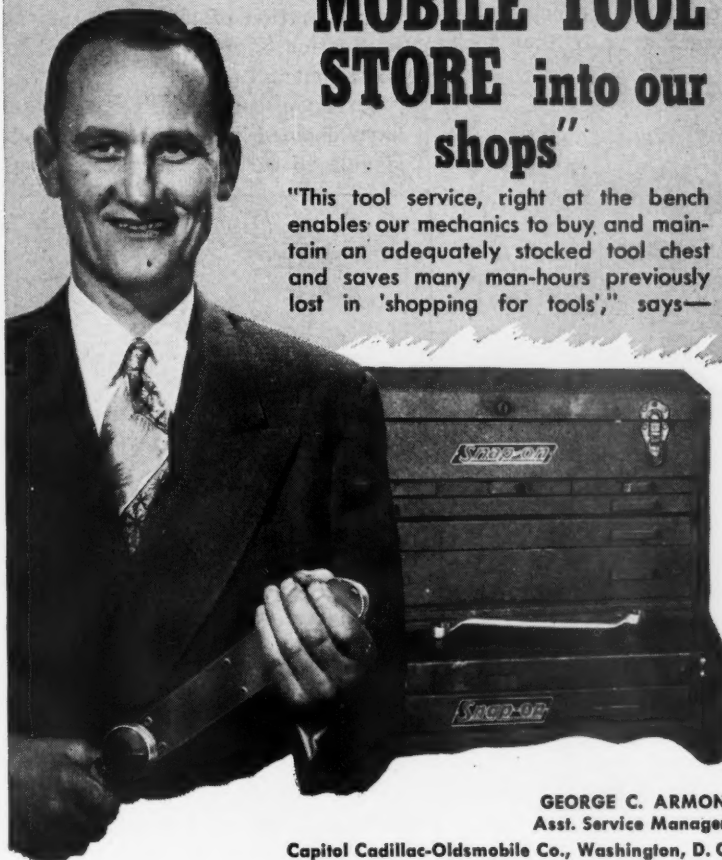
"We welcome Snap-on's*

Snap-on Service

is brought into shops all
over America by men like these—
trained, friendly, helpful.

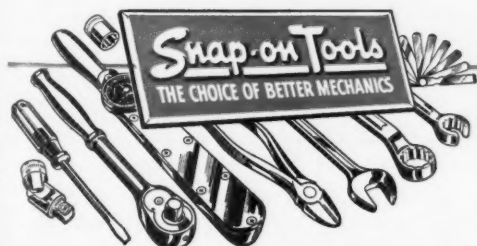
MOBILE TOOL STORE into our shops"

"This tool service, right at the bench
enables our mechanics to buy and main-
tain an adequately stocked tool chest
and saves many man-hours previously
lost in 'shopping for tools,' says—



GEORGE C. ARMON,
Asst. Service Manager,
Capitol Cadillac-Oldsmobile Co., Washington, D. C.

Choosing your Snap-on tools right on the job, at
the bench, has for thirty years been recognized as
"the time-saving way to buy time-saving tools." The
Snap-on Man brings you genuine *automotive service*
tools... many of them specially designed to speed up
the meanest jobs that come your way... and what a
whale of a difference they can make in a man's out-
put and earnings! You should have Snap-on's big
104-page catalog "T" right at hand. If you don't
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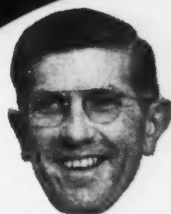
SNAP-ON TOOLS CORPORATION

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*Snap-on is the trademark of
Snap-on Tools Corporation



Henry E. Fresk
Boston Branch



Willard Hogan
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Jim Wolfensberger
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Leland "Pete" LaRue
Seattle Branch



Paul McGrew
Denver Branch



J. A. Thomas
Atlanta Branch

posing of his machinery and converting back.

With these three experiences in mind, plus considerable further information I was able to assemble, I would like to suggest the following "Do's" and "Don'ts" for your consideration:

1. There are two types of contracts, prime and sub-contracts. It

would seem that, unless you are especially well-financed, with a large organization and facilities, and with personal technical knowledge and capacity to do much of the costing, designing and setting up in the eshop, you should consider only sub-contracts, and should be very careful of accepting any prime contracts even if they look

very desirable.

2. There are two general ways of getting contracts. One, to commission a manufacturer's agent to get propositions for you to consider and bid on, and the other, to call your car manufacturer's purchasing department and get their advice and cooperation in getting sub-contracts with them or under one of their vendors. They can also assist you in getting machinery and allocation of materials for the production of the items covered by your contract.

3. If you can get a contract, and have decided to proceed, it is advisable to set up a separate legal

Only FOX
has completely automatic,
electronically controlled
battery chargers!

Fox Powerchargers bring a new, fool-proof simplicity to battery charging. Just connect Powercharger to battery, turn current on. That's all! No time clock to set, Powercharger does the rest. Perfect job, automatically, every time.

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It detects and constantly reports battery condition to charger. If it is improperly used or accidentally removed, Powercharger cuts off automatically. Safety Therment, exclusive with Fox, has no moving parts, is virtually indestructible.

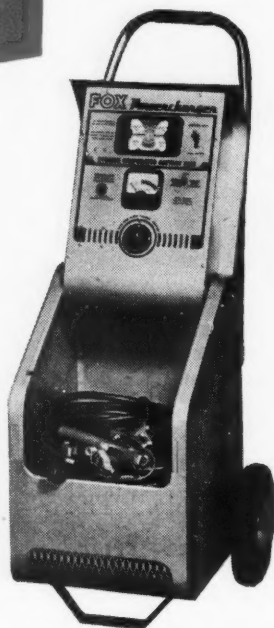
Other features:

Compensated Cut-Off . . . Dynamic Comparator Battery Test . . . Automatic Trouble Light . . . Fast or Slow Charging . . . Full Year's Guarantee.

Wire or write Dept. G for full details

FOX PRODUCTS COMPANY

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This model and other Fox Powerchargers are available with conventional electric timer control if desired.



"Everything else all right, Sir??"

organization, either single ownership, partnership, or corporation, as you may prefer. Set aside separate office space, separate floor space for production, and specify certain personnel so that the operations can be carried on entirely apart from your auto dealership.

4. Consider getting a competent cost accountant or time study man if you cannot do this yourself. Be sure to get your wages and hours in order so that you can negotiate with a union, as you will probably have to consider this eventually.

5. It seems advisable not to sign a cost-plus contract, as you become involved in endless accounting audits and checkups. It seems much better to make firm bids. For the same reason it seems advisable to purchase all materials for manufacturing outright and not to accept them on a consignment basis. Also a consignment basis results in continuous counts on inventories which hold up production activities.

6. On any contracts that you enter into, be sure that you are protected with a clause which allows you to get paid for any scrap
(Continued on page 82)

Dodge

DeSoto

Dodge
"JOB-RATED"
Trucks

Chrysler

Plymouth

STAR PERFORMERS!

Just as vehicles built by Chrysler Corporation are star performers, so, too, are the MoPar parts and accessories which are built especially for them.

MoPar parts and accessories are factory-engineered and factory-inspected for Plymouth, Dodge, De Soto and Chrysler cars—and for Dodge "Job-Rated" trucks.

Remember . . . the name MoPar means *genuine* Chrysler Corporation parts and accessories. Recommend and install them always.

MOPAR
PARTS

MOPAR
PARTS



You can get MoPar parts and accessories from Plymouth, Dodge, De Soto and Chrysler dealers and from general service and repair shops everywhere.

CHRYSLER MOTORS PARTS CORPORATION • DETROIT, MICHIGAN

AC Aluvac Oil Filter Element



AC

**OIL
FILTERS**



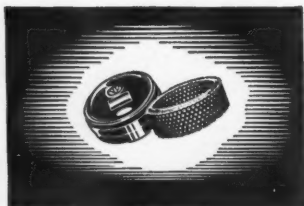
AC

**FUEL
PUMPS**

Known and Respected for *Superior Quality*

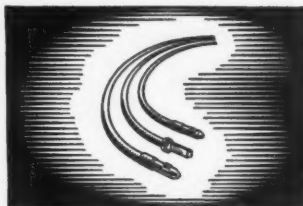
AC Oil Filters and the new AC *Aluvac* Elements are selling like hot cakes. The AC name and the AC reputation for advanced design and quality manufacture are the factors responsible. Motorists believe in the AC trademark. Their faith becomes even more solid when their own experience proves that AC *Aluvac* Elements trap more dirt and finer dirt than ordinary old-style elements—last longer—cost less.

AC originated the fuel pump 27 years ago. Since then, more than 100,000,000 AC's have been built. Today, the majority of automotive vehicles on the road are AC-equipped. When an owner needs a new pump, there's no argument about an AC. Chances are he now owns or has owned an AC-equipped car. He knows AC quality and dependability. He needs no convincing that AC is *America's First and Finest Fuel Pump*.



AC AIR CLEANERS AND ELEMENTS

Heavy-duty cleaners; renewal elements. AC's used as equipment by 80% of car manufacturers.



AC SPEEDOMETER CABLE-CASING ASSEMBLIES

Also supplied in tailor-made cables, or as bulk cable and casing, with parts.



Accepted Without Question...*Everywhere*

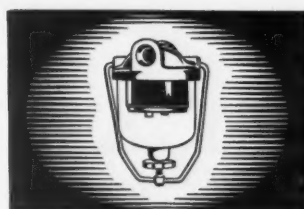
Car, truck and tractor owners the country over are familiar with AC Spark Plugs. They know that AC's lead in modern design and engineering and quality construction. And the fact is that AC has pioneered every major spark plug improvement, the latest of which is *CORALOX*, the patented insulator that withstands heat better, stays cleaner, fires surer, lasts longer. Spark plug users accept AC's without question—whenever and wherever spark plugs are required.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION



AC FLEXIBLE GASOLINE AND OIL LINES

Assortment, with attractive Wall Merchandiser, displays as well as stocks fast-moving numbers.



AC GASOLINE STRAINERS AND ELEMENTS

Available in handsome Counter Merchandiser for attractive display and easier sales.

BECOME KING OF THE SHOP..OWN A Treasure Chest



Fit for a King YET THEY COST NOTHING EXTRA

The low price of the 1/2" drive Bald-Head Ratchet (above) and its exclusive features are typical of the whole Blackhawk line. Check prices on all lines! Compare quality! You'll end up buying Blackhawk Wrenches.

To get a "Treasure Chest" — ask for either 70R (67 wrenches) or 90R (87 wrenches) both in beautiful R case.

Blackhawk Wrenches help you look, feel, and work like a professional

If you make your living with wrenches, you're a *professional* mechanic... and you deserve to have *professional* wrenches! Tool for tool—every item in this "Treasure Chest" has more professional qualities than any other you could own. You'll be the envy of the shop with these gleaming, silver-bright Blackhawk Wrenches. You'll beat flat rates and win preferred customers, too. Buy Blackhawk Wrenches from your Blackhawk jobber. A Product of BLACKHAWK MFG. CO., Dept. W-371, Milwaukee 1, Wis.

Give yourself a break! Don't let
ordinary tools hold you back!

BLACKHAWK

Prices subject to change without notice. Slightly higher in Canada.
WRENCHES • HYDRAULIC JACKS • "PORTO-POWER"

Dealer Clinic

Continued from Page 78

you may accumulate due to changes in specifications during the term of the contract. This condition develops many times so do not overlook it.

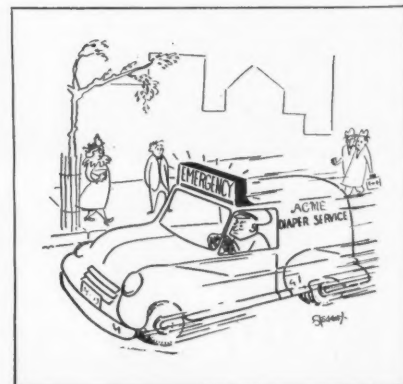
7. Beware of being persuaded or pressured into producing some emergency item by anyone, even government officials, unless you have a signed and approved contract before you start the work. Many such instances occurred where the contract was never approved in writing and the manufacturer did not get paid.

8. Purchasing of machines and equipment should be a matter of great concern. Do not get more than you can reasonably use. It is better to consider a second or third shift, or both, in order to get out more production per square foot of space and number of employees involved.

Remember that when the emergency is over you will have to close out your war production effort, sell your equipment, and return your facilities to the use of your auto agency.

Finally, I would like to say that reports from most government agencies, prime contractors, and large corporations, indicate that a high percentage of the work done by auto dealers who accepted these contracts was of a very high standard. This indicates that auto dealers have the ability and capacity to convert their businesses to other lines of effort in a reasonably short time and to come up with work comparable with any in the industry which they enter.

(This article was prepared from Mr. Mason's address at the N.A.D.A. clinic.)



Chrysler Transmission . . .

Continued from Page 46

can be checked or cleaned by removing the cover and lifting the switch arm. These points can be best cleaned by using carbon tetrachloride but no abrasives should be used. When assembling the cover, be sure the contact point on the plate is down. Then hook the arm in place on the cover with the high side of the indentation up. The plunger should be checked for sticking by moving it up and down by hand and it can be freed up with a few drops of oil into the vent hole in the plunger and working the plunger up and down a few times.

If trouble exists in the up-shift, it could be caused by a faulty operation in the hydraulic system. To check this, jack up the rear of the car so it can be operated in gear. Remove the interrupter switch so you can watch the movement of the direct speed piston. Start the engine, put the transmission in driving range and accelerate until it's out of the range, over 13 miles per hour. At that speed the piston should move ahead and block the switch hole. If the piston doesn't move, remove the solenoid and check the ball valve ports to see that they are in their proper position. Also remove

(Continued on page 84)



Chilton's MOTOR AGE, JULY, 1951

For NEW INCOME ---Use these BRUTES



Here are three "extra money" ideas you can put to work right now on a small investment

SELL THIS JACK FOR fast profit

Here's today's best buy in hydraulic bumper jacks. It's the *safest*, most *convenient*, most *practical* of all! Customers spot the unmatched *quality* in a flash.

Ask for the model J-18 Bumper Jack—put your stock on display—enjoy fast turn-over. It's the ideal replacement for rickety, original equipment jacks.



1. GET SET TO PROFITABLY SERVE THE HEAVY TRUCK TRADE! If your budget doesn't permit buying extra-heavy-duty wheeled jacks—you can do the job excellently by getting Blackhawk Hand Jacks . . . the kind fleet men and truckers use themselves.

2. SPEED UP SHOP JOBS—put hydraulic Hand Jacks to work on the heavy press and push work. Eliminate costly time-taking hammering and straining.

3. STOCK BLACKHAWK TRUCK JACKS FOR RESALE—Display them and truckers will buy. The market is *big!*

Buy the best jacks . . .
buy from your Blackhawk Jobber

BLACKHAWK

Blackhawk Mfg. Co., Dept. J-371, Milwaukee 1, Wis.

"PORTO-POWER" • "RECK-RACK" • WRENCHES

Chrysler Transmission Continued from Page 83

the shuttle valve to check the parts in it.

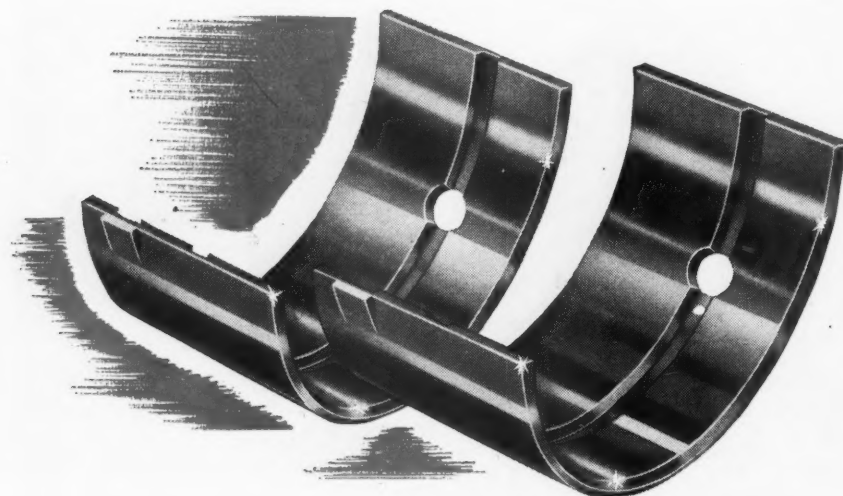
The spring length should be checked at this time also. The ball valve seat spring, the heavy spring that holds the seat down, is 55/64ths of an inch. If the spring is shorter than this, trouble will be experienced on the up-shift. The spring length under

the ball is 1 1/8 in. to 1 1/4 in. long and the shuttle valve spring is approximately 3 1/16 inches long. There is also the possibility that the pump drive pin is sheared off from the result of dirt getting into the pump. This can be checked by taking the transmission out and pulling the extension back on to the main shaft. The pump gears

should also be checked at this time. That is for scoring on the piston and cylinder bar. If the piston moves ahead but the shift isn't completed, check for damaged teeth on the blocker ring or on the direct speed clutch sleeve. If the car won't down shift, examine the pistons to make sure they are free at the proper engine speed. Check to make sure that the looseness of the shifting fork lock screw isn't interfering with the action of the down shift. That screw is found under the upper square headed plug on the right side of the transmission.

Remove the plug and use an off-set screwdriver to tighten it. Disassemble the transmission as follows:

Unscrew and remove the governor assembly, and with a pair



Master Engine Mechanics Prefer MONMOUTH

TODAY'S cars are powered with the finest engines ever built.

For a great majority of these engines, master designers and makers specify and use CGB thin wall bearings.

When replacement becomes necessary, master engine mechanics maintain the standard of engine performance with Monmouth

Bearings. These bearings are identical in every detail with the original bearings. They excel all others in finish, in precision, in quality and in engineered performance* at standard prices.

Efficient N.A.P.A. Jobbers coast to coast are anxious to give you Minute-Man service on your needs for genuine Monmouth Bearings.



Clutch Plates and Parts



Chassis Parts



King Bolt Sets

***NOTE:** All eight cars finishing the 1951 Indianapolis Race used Clevite 77 and Micro Engine Bearings.

All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and insure user safety and satisfaction.



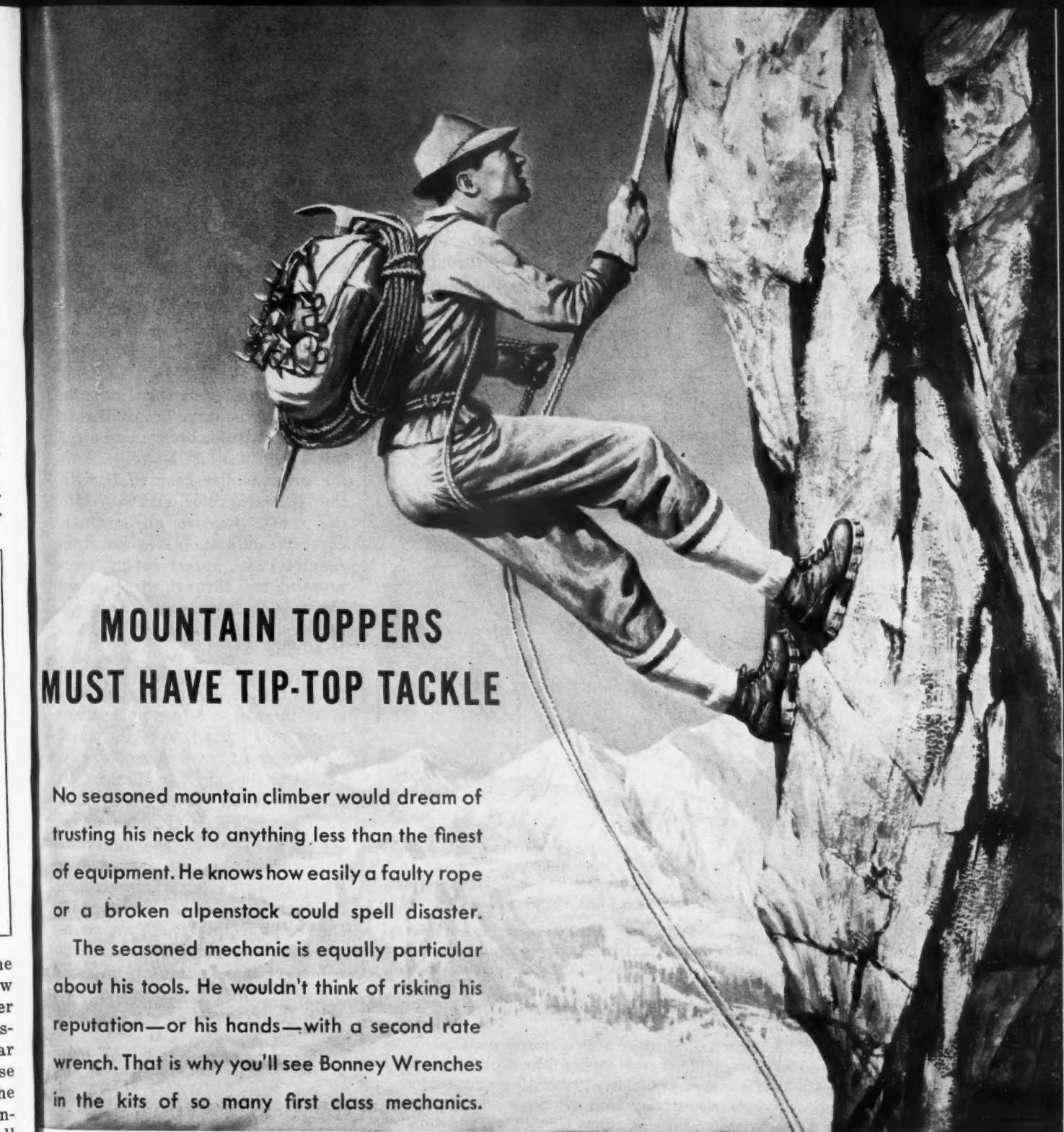
THE CLEVELAND GRAPHITE BRONZE CO.
REPLACEMENT SALES DIVISION
6545 Carnegie Ave. • Cleveland 3, Ohio



of needle nose pliers lift out the governor drive pinion. Unscrew the solenoid and the interrupter switch. Also the gear shift housing. Shift the manual clutch gear sleeve to first and the reverse idler gear to reverse, locking the mainshaft. Then remove the mainshaft, flange, nut and lock. Install puller on the mainshaft flange to remove it. Take out the screws holding the rear bearing retainer to case and remove the bearing retainer and mainshaft assembly as a unit, leaving the direct speed clutch sleeve and the blocker ring in the case.

Remove the maindrive pinion bearing retainer. Remove the lock ring which holds the direct speed

(Continued on page 86)



MOUNTAIN TOPPERS MUST HAVE TIP-TOP TACKLE

No seasoned mountain climber would dream of trusting his neck to anything less than the finest of equipment. He knows how easily a faulty rope or a broken alpenstock could spell disaster.

The seasoned mechanic is equally particular about his tools. He wouldn't think of risking his reputation—or his hands—with a second rate wrench. That is why you'll see Bonney Wrenches in the kits of so many first class mechanics.

This is one of a series of spirited sporting scenes (in full color, without advertising) available on request. Write for your free set today.

"CHEAP TOOLS ARE FOR CHUMPS". So says the good mechanic. And the best recommendation for Bonney Wrenches is the kind of men who use them. As thousands of good mechanics can testify, for lightness, strength, balance and precision, you can't beat a Bonney.



BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

rail guide, in the case and remove the guide. This can best be done by installing two cap screws in the guide and while pulling it turn the guide slightly. Remove the main control valve plug and gasket, valve and spring from underside of the case. Next remove the pilot valve and housing assembly and the plug, spring, and gas-


ket from the housing. Remove the plug on the side of the case to the right of the governor and reach through hole and loosen lock screw which holds the direct speed shifting fork to the shifting rail. Push the rail out through the rear case. Remove the shift fork and spring, the direct speed clutch sleeve and blocker ring. Drive out

the counter shaft, from the rear of the case, using an arbor of slightly smaller diameter than the shaft but the length of the counter gear, to retain needle bearings and spacers. Drop the counter gear in the case. Remove the main drive pinion from the front of the case. Pack center of gear with grease to retain pilot roller bearings. Then remove the snap ring and press the bearing off the shaft. Lift the counter gear from rear of case, but while removing, do not tilt it or the free wheeling gear will slide off the arbor and spill the needle bearings into the case. Keep the large bronze thrust washers at front, bronze and steel thrust washers at the rear. Pull the reverse idler gear shaft with the special puller screwed into the shaft. Remove oil strainer, cover gasket and oil strainer from rear of case. Insert spring compressing tool through direct speed shift piston from front. Compress spring and remove spring retainer lock ring with long nose pliers. Slowly loosen the compressor tool nut to relieve spring tension. Remove the piston return spring, retainer and spring from the case. Remove the compressor tool.

Insert the shift rail through hole in rear of cylinder and push shift piston out of cylinder, pushing toward front of case. Shift the free-wheeling clutch sleeve forward engaging lug of cam roller retainer in notch of sleeve. Lift the free-wheeling gear from counter gear assembly. Lift the cam roller retainer from gear, unhooking lugs from retainer spring.

(Continued on page 88)

Thermoid Brake Fluid Hits The "Best Seller" List



*For my money—
there are only
Two brake fluids*

That is typical of what thousands of auto mechanics have told us. They say that once they tried Thermoid Brake Fluid, they were sold on it for keeps.

In the less than three years it has been on the market, Thermoid Brake Fluid has become one of the top leaders in the field.

Here Are The Facts on Thermoid Brake Fluid

Meets or exceeds SAE specifications. Fortified with corrosion inhibitors to protect rubber and metal parts. Will not swell rubber cups. Mixes with all recognized quality fluids. Two types available—Type "A" for passenger cars and light trucks. Operates dependably from 60° below zero to 230° above. Type "HD" for heavy duty flows at minus 60° but has a boiling point well over 300°.

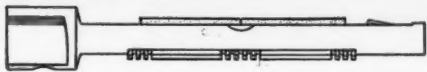
Try Thermoid Brake Fluid—and check results for yourself.

Thermoid

Thermoid Company • Trenton, New Jersey

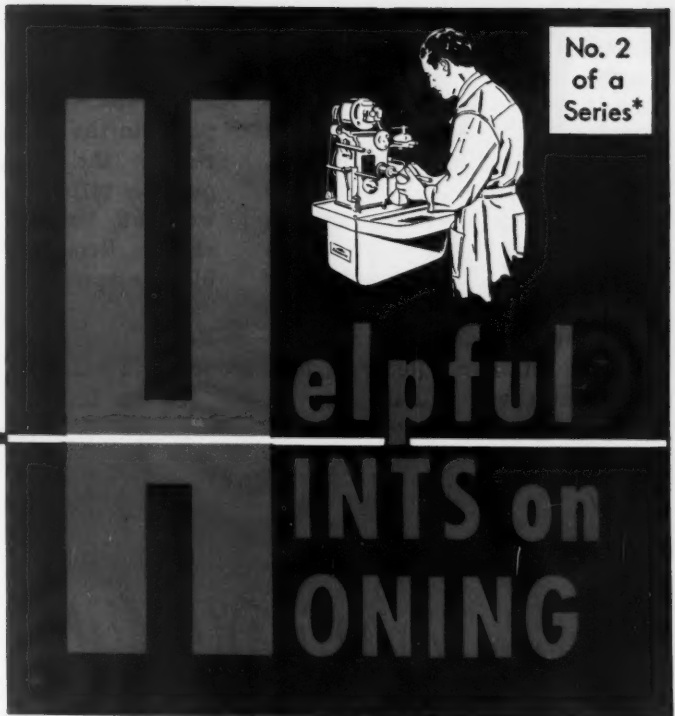
the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.





Care Will Save Your **SUNNEN** Stones and Mandrels

These 4 Tips
Will Help You
Make 'Em Last Longer



- 1 Keep them "true."** Use truing sleeve occasionally to make sure that stones and mandrel guide shoes are parallel. You'll get better honing results with less stone and mandrel wear.

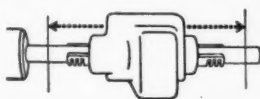


*This series of advertisements is designed to help users of Sunnen equipment conserve materials and manpower.

- 2 Handle stones and mandrels carefully.** Rough treatment can chip the stones and burr the mandrels. Rough or out-of-round holes can chew up stones if you "tomp down" on the foot pedal — so depress the pedal gradually until the high spots are honed off.

- 3 Keep stones and mandrels in sets.** Once you've inserted stones in a mandrel, leave them there. If you switch stones from mandrel to mandrel you may shorten the stone life or require extra truing.

- 4 Stroke the work properly.** Use smooth, even strokes that move the work slightly past each end of the stone. Be sure the mandrel is stopped before you put the work on or take it off. Start stroking at the machine end of the stone.



Sunnen Products:

Bushing Grinders • Cylinder Grinders • Crankshaft Grinders •
Bearing Sizers • Rod Aligners • Service Tools

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Jobber or
write direct.



605

SUNNEN PRODUCTS COMPANY

7918 Manchester Ave., St. Louis 17, Missouri • Canadian Factory: Chatham, Ontario

Chrysler Transmission Continued from Page 86

Remove springs. Lift the clutch sleeve from shaft, and remove key. Remove the nut and lock plate from oil pump shaft and remove oil pump drive gear and driven gears. Remove the speedometer gear, remove speedometer drive pinion by screwing it out of the bearing retainer. Remove four cap screws which hold the oil

pump to the bearing retainer and remove the pump. Unless this pump is to be disassembled, leave woodruff key in place in pump shaft. Remove direct speed blocker spring and washer from hub of the direct speed gear. Note: The lug of washer fits into notch in gear hub.

Clamp the rear end of main-


shaft in vise. Using snap ring pliers remove snap ring from mainshaft. Remove thrust washer and ball thrust bearing from hub of direct speed gear and lift out after removing the gear. Lift direct speed gear from mainshaft. Remove needle bearings and spacers. Remove thrust washer and clutch gear synchronizer stop ring. Place mainshaft and rear bearing retainer in arbor press with hollow sleeve against first speed gear. Press mainshaft through bearing retainer and gears. Remove the clutch gear shifting plate spring from inside of clutch gear. Lift the sleeve from gear, catching three shifting plates as they are released. Remove the shifting plate spring from opposite side of clutch gear.

When reassembling the transmission insert the direct speed gear blocker ring through the direct speed clutch sleeve, with teeth toward the maindrive pinion. Push the ring up on the cone of the maindrive pinion. Install the aligning studs in case, then slide bearing retainer over studs and insert mainshaft assembly in the case, meshing mainshaft gears with counter gears. Mesh direct speed gear hub teeth with center space of each set of teeth in direct speed clutch sleeve. Rock main drive pinion and press against rear bearing retainer until main shaft assembly slides into place.

Lock the mainshaft in first and reverse gears. Press brake drum and flange onto mainshaft. Install mainshaft thrust plate, lock washer and nut.

STOCK **AUTOPULSE...**

and **YOU'RE READY** for anybody
who needs a Fuel Pump

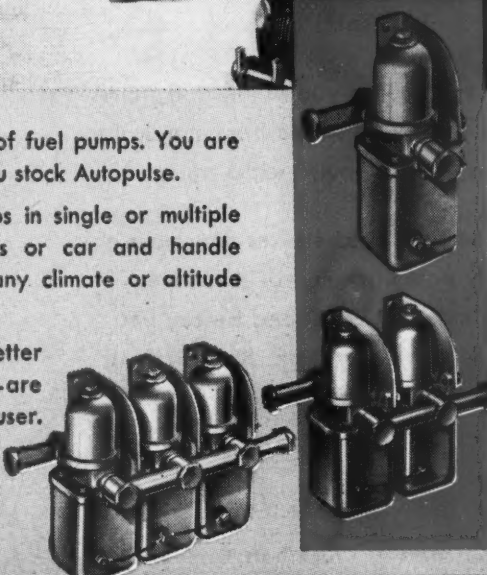


You don't need a big stock of fuel pumps. You are ready for all customers if you stock Autopulse.

Autopulse Electric Fuel Pumps in single or multiple units will fit any truck, bus or car and handle any kind of liquid fuel in any climate or altitude in the world.

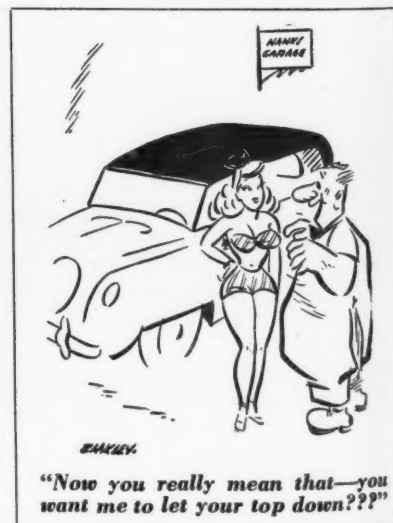
Autopulse Fuel Pumps do a better job—are easier to install—are always satisfactory to the user.

Standardize on Autopulse—and get rid of heavy inventory in Fuel Pumps.



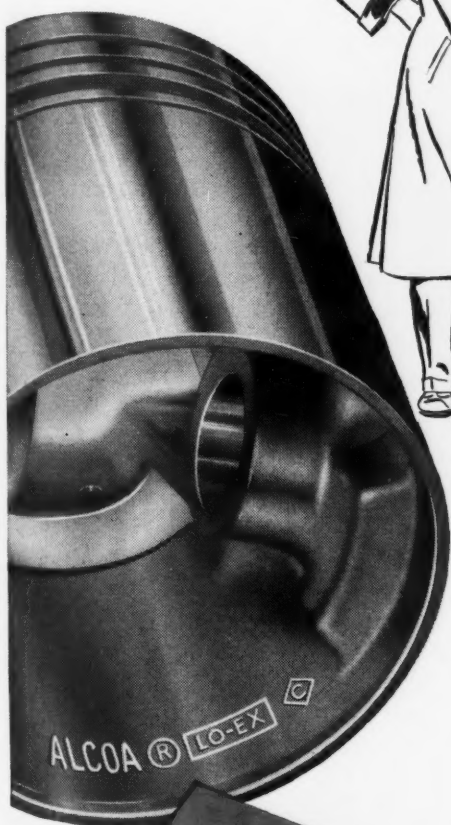
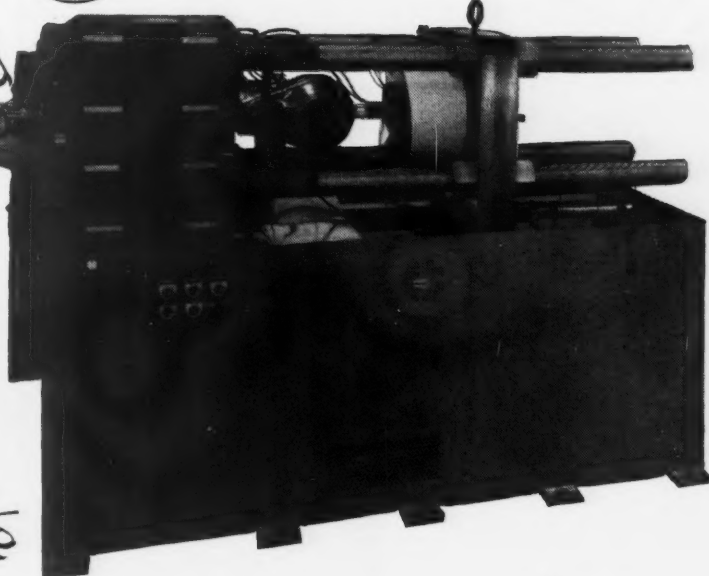
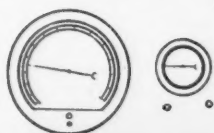
AUTOPULSE Corporation

LUDINGTON, MICHIGAN



SELL *PRE-TESTED* PISTONS!

Piston fatigue test
setup in Alcoa Development
Laboratories.



An engine overhaul costs your customer too much to risk faulty pistons. Play safe. Look for the ALCOA Lo-Ex trademark inside. It tells you the piston design has been thoroughly *pre-tested* for strength and fit and performance.

That the alloy is tough, light in weight, low in expansion. That pistons will run cool, deliver full power, save gas and oil.

Always stock aluminum pistons of ALCOA Lo-Ex alloy—precision cast by Alcoa, finished by expert piston makers.

ALUMINUM COMPANY OF AMERICA, 1850G Gulf Building, Pittsburgh 19, Pennsylvania.

LOOK FOR

ALCOA LO-EX



when you stock replacement pistons*

PISTON CASTINGS OF EVERY TYPE



T-Slot



Trans-Slot



Strut



Trunk Type

*Availability may be limited by military needs for aluminum.

MORE HAUL PER OVERHAUL!

came chugging down the road. Larry could tell at a glance that something was under Jeff's collar.

Hat jammed firmly down over his ears, right hand grasping tight to the shift lever, left hand high on the steering wheel, Jeff was obviously in difficulties. It seemed to Larry as the car came closer that the dogs were taking con-

siderable delight in Jeff's predicament.

"Good Morning, Jeff," Larry greeted him as the car was slammed to a stop.

"Mornin'," grunted Jeff sourly. "Where's that kid who said this car was fixed?"

"You must mean Tommy," Larry replied. "He's not here yet, but

he'll be in in a minute. Anything I could do to help?"

"There's something someone could do to help," Jeff conceded without further prompting. "This darn car jumps outa both low and high gear now. I'll be going along the road and the first thing I know the thing is just coasting. I hafta hold it in high gear with my hands. An' I get mighty tired steering with one hand and holding with the other. Is that standard procedure around here after you do a transmission overhaul?"

"Well," Larry replied, "it ain't standard procedure. But then," he added with a slight grin, "I've been on vacation. Usually I'm here to do these things right. Who did the job, Pop himself?"

"I don't know," Jeff said. "I don't think anyone did the job right. But I believe it was that

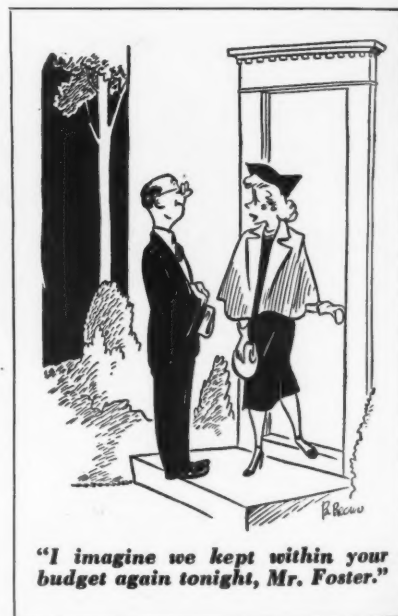
JOHNSON CAMSHAFT BEARINGS IN *Complete Sets*



FIFTY

YEARS of research and experience have gone into the development of Johnson Bearings. These bearings are of the highest quality possible, made to precise dimensions, and ready for immediate installation. They assure car owners of the maximum in smooth, quiet, economical performance. Sell them in complete sets. It saves customers money—protects your reputation.

WRITE FOR CATALOG



kid who said he did the work on it."

"Well," Larry pacified him, "Tommy don't know that much yet, but he's a good enough boy. Maybe he left too much play in the main drive gear. Or maybe the synchronizer was worn, and Tommy just didn't replace it."

Just then Tommy joined the trio. "Hello, Mr. Hundt," he said. "Havin' some trouble? I wish you'd let us road test that car before you took it. As I said Saturday, there's always a chance that something's out of adjust-

(Continued on page 94)



NEW FORD PARTS DEPOT at Cincinnati is typical of warehouses Ford is building all over the country. From a depot like this, Ford Dealers will order almost any part for your Ford!

TO SERVE FORD OWNERS BETTER THAN EVER!

Ford's \$500,000,000 expansion program will make Genuine Ford (FoMoCo) Parts easier to get than ever. The depot (above) is only one of ten new parts depots built or being built. Nineteen others are being expanded. This expansion program, designed to triple stock space, is part and parcel of Ford's "Look Ahead" policy to better serve Ford owners.



MADE RIGHT for Fords, Genuine Ford Parts, like this muffler, are specified by wise motorists to save time, money and trouble. They're *right* because they're duplicates of the parts in your Ford.

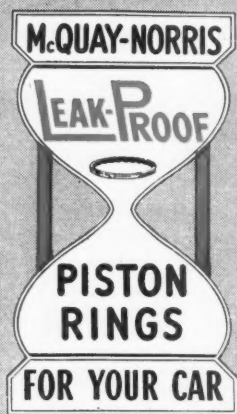


FIT RIGHT in your Ford—a "must" for important parts like the Genuine Ford Carburetor above. It's typical of the parts designed by Ford engineers, to work right in your Ford... to keep your Ford young longer.



LAST LONGER in Fords. This sign is displayed wherever Genuine Ford Parts are sold... at all Ford Dealers and selected independent garages. Specify Genuine Ford Parts... made right... to fit right... to last longer.

KEEP YOUR FORD ALL FORD



ALTINIZING THE FINEST OF ALL PISTON RING COATINGS!

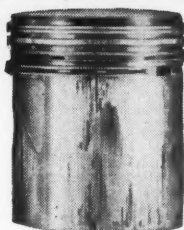
ACID TESTS PROVE IT!



UNRETOUCHED
PHOTOGRAPH

FRICTION causes motor wear . . . but so does **ACID ACTION!** Acids duplicating those formed in a motor are shown in the glass container. Note the acid attacking the two ordinary rings at the right causes bubbles to rise. In motor operation that means wear. Now note no bubbles rise from the ring at the left because it is **ALTINIZED!** That means less wear.

LEAK-PROOF RINGS ARE SCUFF PROOF RINGS



PISTON FITTED
WITH ORDINARY RINGS

This picture shows scuffing and wear during break-in period. Rings have never been seated and worn surface prevents proper seating action. Thus effective Ring operation is impaired.



PISTON FITTED
WITH ALTINIZED RINGS

1. Rings and piston show slightest possible scuffing and wear during break-in period.
2. Rings seating properly.
3. Positive sealing action of rings due to fine bearing surface—Altinized finish.
4. Successful ring operation due to lack of scuffing and premature wear; proper seating of rings, and positive sealing action.

McQUAY-NORRIS MANUFACTURING CO.

Yours for the Asking



THIS COMPLETE SERVICE ENCYCLOPEDIA

This SERVICE ENCYCLOPEDIA comes with a heavy cover, and is wire bound for long use... It tells you HOW to SELL the JOB through pages that show the customer just what you do... It tells you HOW to DO the JOB by means of pictures on TUNE-UP jobs, RING jobs, OVERHAUL jobs and many others... It tells you HOW to PRICE the JOB with rate charts, work time, etc. Here is a book full of information every service department needs... and...

It's Yours for the Asking

Here's How TO GET THE SERVICE ENCYCLOPEDIA

Simply place an order for *four* sets of LEAK-PROOF Piston Rings. You select the sets you want. You will be billed for the sets at your regular price by the McQuay-Norris jobber from whom you buy. HE WILL SEND THE SERVICE ENCYCLOPEDIA AT NO EXTRA CHARGE. The most liberal offer we have ever made.



McQUAY-NORRIS MFG. CO. St. Louis 10, Mo.

Please send full details on "HERE'S HOW" to:

Name _____

Address _____

City _____ Zone _____ State _____

LEAK-PROOF PISTON RINGS

ment when you do an overhaul."

Larry turned abruptly to Tommy, "Did you replace that synchronizer?"

"No," Tommy admitted, "the synchronizer was O.K."

Larry turned to Jeff Hundt, "That's the trouble all right. Anything this kid calls right, is probably wrong. We'll have to tear it

all down and do it over again now that the real mechanic is back from vacation."

"Are you sure it couldn't be in the linkage?" Tommy inquired. "I was rushing pretty fast at the end of this job. Mr. Hundt wanted to get away."

"You just let me check it," said Larry, and he crawled underneath

and went at it. In a few minutes he stood up again. "Everything's in good shape," he said gruffly. "It's that damn synchronizer. When they wear you're bound to get that jumping out of gear."

As Larry was finishing his speech, Pop came out of the back room, wiping his hands on a greasy rag. "What's up," he said. "Somethin' troublin' you?"

Larry, Tommy and Jeff, all started to explain the trouble at once. And from the chorus of three voices at once, Pop got a rough idea of what was wrong.

"Let me grasp that shift lever," said Pop. He sat down in the driver's seat, whipped the lever into low, then quickly into second. "This lever pushes too far," he remarked. "How good did you check that linkage, Tommy?"

"Not very," said Tommy. "I was rushing too fast."

Pop grunted.

"It's not just linkage," said Larry. "I looked it over just now. The linkage is plenty tight enough. That's a synchronizer bad in there, and you know it Pop O'Neill."

Tommy broke in, "I don't believe it is a synchronizer, Pop. When we looked over those parts, that synchronizer was perfectly good. I'm pretty sure you'll find it's somethin' else."

Pop pulled the lobe of his left ear thoughtfully with his left
(Continued on page 96)

MEMORANDUM

*New Automotive Wet Sander
Made by National*



Model 300A

Weights 5½ lbs.—Fast—Efficient

National's new Model 300A is specifically made for automotive sanding. It is extra fast . . . operating at 2500 strokes per minute. A specially designed pad doubles its efficiency, and can be used on different surfaces without change. Built-in water outlets provide efficient wet sanding. See your jobber, or write for details.



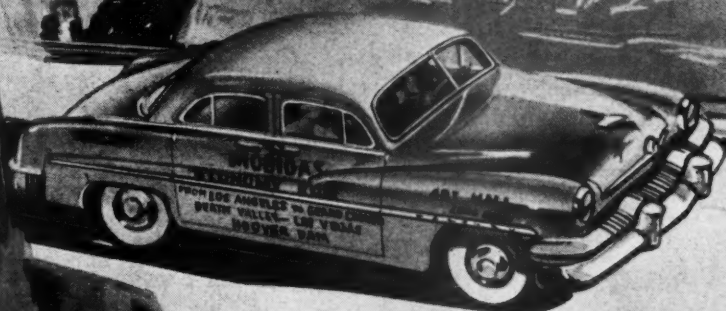
NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILLINOIS



"Remember me telling you that Mr. Gilbey promised me a diamond necklace . . . ?"

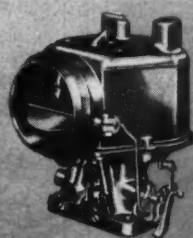
IN THE 1951
MOBILGAS ECONOMY RUN—

Sanctioned By Contest Board AAA



LINCOLN WITH OVERDRIVE
—Sweepstakes Winner

MERCURY WITH OVERDRIVE
—Class "C" Winner



FOR HALF A CENTURY—ORIGINAL EQUIPMENT
MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY

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ARE STANDARD-EQUIPPED

WITH **HOLLEY**
CARBURETORS AND
PRESSURE DISTRIBUTORS

HOLLEY
Carburetor Co.

3930 VANCOUVER, DETROIT 4

KT-10 and J-10

forefinger and thumb. He was weighing the testimony of his two chief witnesses. Finally he spoke. "I think you'll find that that shift lever isn't pulling the rod far enough in any direction."

He climbed out and stuck his head under the hood. After a minute he grunted again.

"Come here, Larry. See this

lock nut? That's supposed to hold this rod in one position after it's properly adjusted. This rod can slide up and down in the slot in the lever. Tommy," he turned to the boy, "did you make any adjustment on this rod? Don't bother answering. If you did, you left the lock nut loose. If you didn't, you should have tightened

it. Give me a nine-sixteenths wrench. We'll set it in the center for first try. That should be about right." He tightened the nut, then tried the lever again.

He turned to Tommy, "Come here. See the nice feel this has now. It's solid." Tommy nodded. Larry obviously didn't approve of the whole proceedings.

"Now we'll road test this car before we say the job's done," Pop remarked grimly. "We always road test every job like this. It's as important as doing the job."

Larry turned to Jeff Hundt and remarked virtuously, "Things like this never happen to me 'cause I know what I'm doing when I do a job."

Jeff looked at him curiously. "Who's the fellow who just told me, quote, the whole transmission will have to come about, unquote. Ain't you the synchronizer expert?"

Pop and Tommy covered their mouths with their hands to hide their smiles. But to Larry even the dogs seemed to be laughing at him now. Pop eased the situation by giving him a friendly grin.

"Welcome home from a pleasant vacation. How do you like your high and mighty seat?"

"The seat ain't too comfortable," Larry grinned back. "I feel sorta like the prisoner who is about to be electrocuted and the warden asked him if he had any last requests to make.

"Well," the con remarked, "I'd like to offer this seat to a lady."



**versatile
sturdy
safe**



Check These Features of the New Model "B"

- Increased Reach Under Car
- Wide Spread Lifting Hooks
- Complete Safety
- Smooth Operation
- Reduced Friction
- Decreased Weight
- Greater Ease of Handling
- Easily Serviced
- Wheels Cannot Seize
- Increased Accessibility
- Low Compressed Air Requirements
- Improved Protected Cylinder Assembly

Pays for Itself in 6 Months

With one hour of labor saved per day with this amazing new Lift . . . after six months those profits belong to you.

Thousands of alert car dealers, garages, body shops, and service stations are making money with the Automatic One-End Lift by saving time and effort . . . by making hard jobs easy.

Here is a lift that is perfect for:

- Shops above the ground floor
- Shops too small for a permanent Lift
- Shops over water, rock, or sand
- Shops with low ceilings

. . . or as an auxiliary Lift for peak work periods.

Completely safe and portable, the Automatic One-End Lift locks "STEEL ON STEEL" at any one of six working heights . . . 20", 26", 32", 38", 44", 50".

The Lift operates off the nearest air hose and when idle, can be stored in a 2'x6½' space. Ask your jobber today about an Automatic One-End Lift. Write for Catalog G-5.

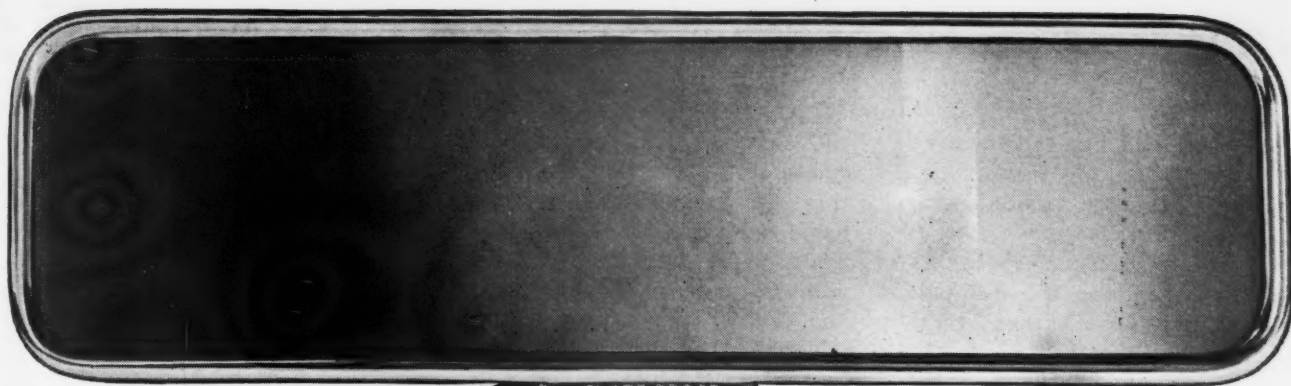


**AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO**

AUTOMOBILE JACKS • AUTOMOTIVE GRINDING WHEELS • LINMAR WATER PUMPS • MERCURY CLUTCHES



**"Mr. and Mrs. Norman announce
the engagement of their — hold
it! Just a minute . . . !"**

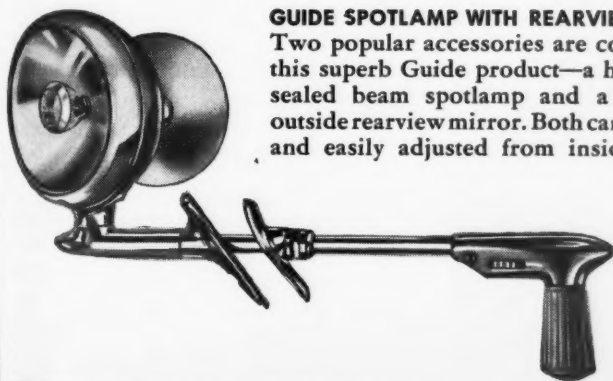


GLARE-PROOF
GUIDE

There's
PROFIT
in plain sight
...with
GUIDE

THE NEW GUIDE GLARE-PROOF REARVIEW MIRROR

Here's what you want . . . if you're in the market for a fast-selling accessory. The new Guide Glare-Proof Rearview Mirror is naturally a big seller because its advantages are obvious. The 8½-inch-long prismatic mirror gives an extra-wide view to the rear . . . eliminates the glare of headlights behind at the flip of a finger! Order a supply of Guide Glare-Proof Mirrors now. Available for most makes of cars.



GUIDE SPOTLAMP WITH REARVIEW MIRROR

Two popular accessories are combined in this superb Guide product—a high-quality sealed beam spotlamp and a handsome outside rearview mirror. Both can be quickly and easily adjusted from inside the car.

GUIDE MULTI-PURPOSE LAMP — This lamp gets its current from the cigarette lighter receptacle. Its 14-foot-long cord makes it a portable lamp that can be used in and all around a car. Provides a spare headlamp sealed unit—a real friend when needed.



GUIDE LAMP—A UNITED MOTORS LINE
Available everywhere through
UNITED MOTORS DISTRIBUTORS

Guide LAMP

Division of General Motors
Anderson, Indiana

Cars On Record Continued from Page 61

viduals as well like to know what their car is costing them.

Here's how our record system operates.

After a new customer's car has been serviced and the bill paid, the repair order is turned over to our service department clerk, Milton Naehle, who checks the active and inactive files for a record of

the customer. Finding none, he makes out a new service card. On this he enters the customer's name, address, phone, car make, model, type, motor number, serial number, mileage, amount paid, and inks in small checks under the various services given on that date.

By a series of columns and

checks, a complete and tabulated picture is on the face card. It is a key in referring back to the original repair order when necessary.

Any recommended service that is rejected by the customer is checked in in pencil. Otherwise, the service card record is done in ink.



"SAVES MECHANICS' TIME ON EVERY SOLDERING JOB"

says Service Manager

J. HAROLD MOONEY

Geo. W. Coupe Chevrolet Agency, Glenside, Pa.

"A mechanic can smoke a lot of cigarettes waiting for old-fashioned soldering tools to heat. But our new 250-watt Weller Soldering Guns save a lot of time. 5-second heating and trigger-switch control mean no wasted time or current. And you never have to unplug the gun between jobs. We solder better and faster, too, on *light and heavy work*—because Weller's *dual heat* can be controlled to suit the job. I figure the power and time we saved paid for these guns in a few months."

New WELER 250-Watt Auto-Mechanics Soldering Gun



Trigger-Switch Control—Instantly on, instantly off.

5-Second Heating—No waiting. No wasted current. Saves hours and dollars every month.

Dual Heat—Single heat 200 watts; dual heat 200/250 watts; 120 volts. 60 cycles.

Wellertip—Rigid, chisel-shaped, provides more soldering area for faster heat transfer.

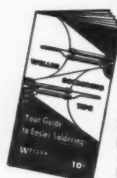
Solderlite—Prefocused spotlight shows you what you're doing every minute.

Longer Reach—Slides easily between wiring—under the dash—into the tightest corners.

Over/Under Terminals—Brace tip and give maximum visibility.

Order from your distributor today, or write for bulletin direct.

WELLER
ELECTRIC CORP.
801 Packer Street • Easton, Pa.



Soldering Guide—Get your new copy of "Soldering Tips"—revised, up-to-date, fully illustrated 20-page booklet of practical soldering suggestions. Price 10c at your distributor, or order direct.



"Estelle's beauty shoppe? My wife's bill you sent me—I want a complete breakdown on it, labor, parts—"

The service card is then filed in the visible files. These files are on casters so that they may be moved from the office to the shop readily. They usually stand beside the service manager's desk for easy accessibility to customers, and to the service salesmen and manager.

Where a new car is purchased, a service card is made out at the time of billing by the new car department clerk. We consider the record system such a vital arm of the shop that we assign filling out of the service card to the new car department at the time of the car sale.

These files hold some 2,000 active cards on which the clerk makes postings from an average of 35-50 repair orders a day. He spends about two to two-and-a-half hours daily doing this among other clerical duties he carries out.

The installation of the filing cabinets cost us about \$250, an amount we consider small in view

(Continued on page 100)



YOUR PARTNER IN SERVICE YOUR CHEVROLET DEALER

The Chevrolet dealer near you welcomes the opportunity to help you solve your service problems. You'll find him Ready, Willing, Able to help promote your business success and to serve you from his well balanced stock of precision-engineered Chevrolet parts.



**FOR YOUR BEST DEAL...
DEAL WITH YOUR CHEVROLET DEALER**

1 out of 4



IMPORTANT FACTS for independent garage men

You're sure of a large, continuing demand for the parts you obtain from your Chevrolet dealer—because more than *one out of every four vehicles on the road today is a Chevrolet*. Be prepared for this constant, profitable service market. Order parts from your Chevrolet dealer today.

Cars On Record

Continued from Page 98

of the invaluable benefits it has brought us.

From the service card we also build our follow-up card system. These 3 x 5 cards that we file daily under the date a car was last serviced remind us to send out 30-day, 60-day and 90-day postcards inviting customers in for car checkup.

It has innumerable unusual uses. When a customer recently reported to us the loss of his car key, we were able to duplicate the key from our record card system.

Another man came in complaining one day that his car expense was running him too high. He wanted to glance over his service card. He did and came up smiling.



"We won't use anything but a TIREMASTER to mount or dismount our tires"... Dave Gannon, Service Manager, Casa de Cadillac Motors Corp. Sherman Oaks, California

CADILLAC
Service Manager says

TIREMASTER

Keeps Tires
OFF the Floor
— Protects
White Sidewalls'
— Eliminates
Pinching Tubes



Mr. Gannon says: "TIREMASTER is wonderful — the real answer for mounting tires. We like its compact design, all the tools conveniently located on the machine.

"Its safety features impress our customers. They like the careful handling

their expensive tires get when mounted by TIREMASTER. And it's a great time-saver in our shop. So many customers appreciate this when in a hurry.

"We won't use anything but a TIREMASTER to mount or dismount our tires."

Write for Bulletin TM50-4

**1161 E. Florence Avenue
Los Angeles 1, California**

Passenger Car, Bus and Truck
Tire Changing Machines

**SALSBUURY
CORPORATION**

It was the body and fender work on his car that was running him into money not mechanical repairs. And this was due to several minor accidents.

We place our service card system in the same category contributing to customer satisfaction that we do our modern equipment, first-rate machine shop, training courses for better skilled mechanics and customer education program. The service card system makes us turn out a more efficient job.

It helps us use our skills and equipment to greatest advantage. It is the right arm of our shop without which we could not operate.



AP Distributors Honored With Appreciation Plaques

The annual award of Appreciation Plaques for distributors who have handled AP Parts Corporation mufflers and pipes for ten or more consecutive years was announced recently. Suitably inscribed to express the company's appreciation of a long and pleasant association, the AP Appreciation Plaques feature a symbolic field of two clasped hands, signifying friendship, surrounded by a crest bearing the Latin phrase "Esto Perpetua," which means "Let It Be Everlasting."

Now... The Ultimate in Ride Control

MONRO-MATIC

SHOCK ABSORBERS

***The New, Improved Shock Absorbers
That Everyone is Talking About***

AUTOMATIC ADJUSTMENT FOR ALL ROADS AND LOADS

MONRO-MATICS are the dream of ride control engineers come true. They *automatically* adjust themselves to changing road or load conditions—are never too "soft" for rough roads, never too "hard" for smooth ones.

IT'S NEW—IT'S BLUE ➡

WHAT'S NEW ABOUT MONRO-MATICS

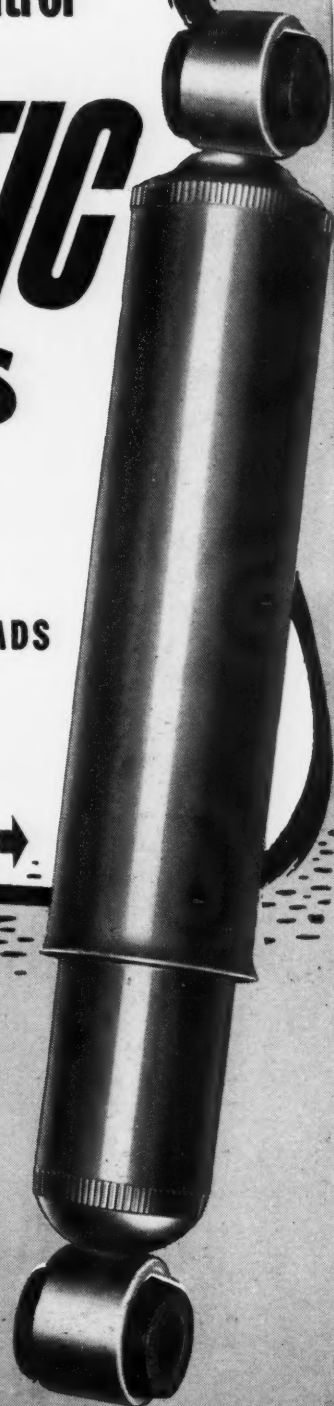
Unique, 2-stage "restricted orifice" valves for *soft, gentle control* of springs on smooth roads, and *quick, positive control* on rough roads and at high speeds.

Compression stroke controlled by four times more fluid than formerly used in direct-acting shock absorbers.

Larger fluid reserve capacity for constant control of compression and rebound during tough driving or high speed operation.

Pre-hardened pressure cylinder with ground and polished piston and rod... chrome-plated piston rod.

Bushings included with all Monroe-Matic shock absorbers.



MONROE AUTO EQUIPMENT CO.

Monroe, Mich. — World's Largest Maker of Ride Control Products

"Our **SKIL** Drills speed repair jobs

Says **CHARLES IMBROGNO**, *Manhattan Motors*,



SKIL Drills help keep repair jobs moving through on a fast schedule at Manhattan Motors. They use Model 281 as an all around, heavy duty drill for a wide variety of repairs on all makes of cars. "This drill has more than enough power for any job we give it," says Imbrogno. And that power is housed in a compact tool—small enough for close quarter work, light weight enough to use continuously without fatigue.



SKIL Drill, Model 281, helps Charles Imbrogno repair a front wheel assembly. Note how the handles are placed to give a strong, steady grip. Perfect balance makes this drill easier to control. Light weight for easier use in any position.

and help us sell accessories too!"

2222 North Cicero, Chicago, Illinois



"Here's proof that this SKIL Drill can do heavy duty work in close quarters," says Charles Imbrogno as he uses SKIL Drill, Model 281, to remove a broken bolt from an engine block.



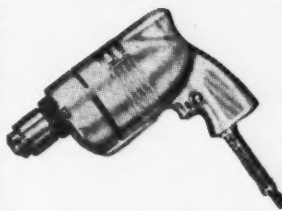
The spot light is installed in a hurry with the help of the SKIL Drill. Another accessory has been sold and another customer has been satisfied with the fast service.



SKIL Drill—Model 281

$\frac{1}{2}$ " special duty drill. Recommended for general purpose drilling on repair, installation and maintenance jobs. Capacity: $\frac{5}{64}$ " to $\frac{1}{2}$ " in steel; $\frac{5}{64}$ " to 1" in hard wood. No-load speed: 450 r.p.m. Weight: 8 $\frac{3}{4}$ lbs. Overall length: 12 $\frac{3}{4}$ ".

Fast Installation sells more accessories



SKIL Drill Model 47— $\frac{1}{4}$ " compact heavy duty drill for all types of continuous installation work. Capacity: in steel, 0" to $\frac{1}{4}$ "; in hardwood, 0" to $\frac{1}{2}$ ". No-load speed 1800 r.p.m. standard. Faster and slower speeds available. Weight: 3 $\frac{1}{2}$ lbs. Overall length: 7 $\frac{1}{4}$ ".

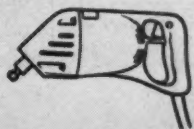
Put time-saving, work-saving SKIL Drills to work on your jobs. 25 models fit all your automotive drill needs. Call your SKIL Jobber.



SKIL Polisher



SKIL Bench Grinder



SKIL Valve Seat Grinder



SKIL Disc Sander

SKIL

PORTABLE TOOLS

SKIL Products are made only by SKILSAW, Inc.
5033 Elston Avenue, Chicago 30, Illinois
Skilsaw factory branches in principal cities

Under Every Hood . . . Continued from Page 47

into the gas tank, where they mix with the gasoline and are sent through the fuel system into the upper cylinder.

Another method of introducing the lubricant into the upper cylinder is by means of a device which sends the top cylinder oil in a fine mist into the fuel stream after it leaves the carburetor. Some of the

car manufacturers are now supplying their dealers with units of this type. The dealers, and customers who have used these units, report very favorably for this method.

Reports indicate that it successfully surmounts any difficulties caused by passing the oil through the complete fuel system, and at the same time affords virtually

complete vaporization with resulting evenness of distribution to all cylinders.

Today's high compression engines with their high operating speeds and higher operating temperatures do require upper cylinder lubrication even more than their low compression predecessors.

BOOST PROFITS WITH **KING** detachable testers!



KING MODEL MT-225

The King Model MT-225 Engine Analyzer is a new addition to the King line. Individual testing units can be quickly removed for use on road service or other jobs.



POPULAR **KING** TESTERS

Model MT-830 Deluxe Engine Analyzer.

Model D-7 Distributor Tester.

FOR COMPLETE KING CATALOG WRITE TO:

KINGELECTRIC EQUIPMENT CO.
formerly THE ELECTRIC HEAT CONTROL CO.
CLEVELAND 5, OHIO

EACH ANALYZER AN INDEPENDENT UNIT

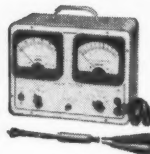
Designed by leading equipment engineers, King Testers feature large, easy-to-read, 5-inch, shockproof D'Arsonval type meters. Dials and controls are located for fast, accurate operation. Permanently attached leads eliminate electrical losses. Following Testers may also be purchased separately.



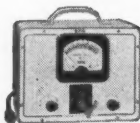
MODEL G-201 COIL AND IGNITION TESTER for testing 6 and 12-volt coils, on or off the vehicle. Tests magneto coils. Time-clock controlled heater brings coil windings to maximum operating temperature for testing all performance factors.



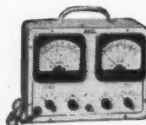
MODEL G-203 Condenser TESTER tests all battery, ignition and magneto condensers, either on or off the vehicle, against accepted standards.



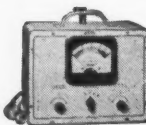
MODEL G-204 V. A. R. TESTER measures all voltages and currents in all vehicle electrical systems. Self-contained resistors, for 6, 12 and 24-volt systems with selector switches, greatly simplify testing.



MODEL G-202 SPARK PLUG TESTER, an exclusive King development, checks plugs electrically under controlled conditions. Locates inefficient and defective plugs for increased sales, added profits.



MODEL G-205 CAM ANGLE-TACHOMETER TESTER electrically measures engine speed of 6 and 12-volt systems. Readings indicated simultaneously on individual meters. Accuracy not affected by varying engine speeds.



MODEL G-206 EXHAUST GAS ANALYZER determines combustion efficiency by electrically measuring thermal conductivity of exhaust gas. Accuracy is

unaffected when operated from vehicle battery for either service floor or road testing.



"We just discovered that we're fellow alumni from the Acme Driving School."

Pressure Will Lessen On Overstocked Dealer

Industry sales have about kept pace with production and in recent weeks there is evidence that field inventories even are declining a bit and that business is picking up. Whether or not modification of Regulation W to provide one-third down and eighteen months on the balance on new car sales, and one-fourth down and eighteen months to pay the balance on used cars, will provide the sale stimulus expected by some dealers and factory managements remains to be seen. It undoubtedly will be helpful but whether or not it will give a large boost to sales still is a matter of conjecture. It looks, however, as though the relaxation of the credit curb, together with a reduction of between 15 and 20 per cent in production during the third quarter should take much of the pressure off dealers who are overstocked at the moment.

When Dependable Performance means most!

● The consistently *dependable* performance of Ditzler Finishes is the chief reason Ditzler has grown to be the largest *exclusive* producer of automotive finishes. For nearly fifty years Ditzler Finishes have been used by most of the leading manufacturers of passenger cars, trucks and buses. This continuous preference is the best proof that Ditzler Finishes are better than any others for all your refinishing needs.



You Can't Buy Better Black Enamel than DITZLER'S DQE-9000

● Now better than ever—Ditzler's DQE-Jet Black Enamel widens its margin of superiority over all other brands. It is a deeper jet black—it dries rapidly to a rich glass-like lustre—it hides exceedingly well—it has excellent "build"—it may be air-dried or baked and it has durability plus. Jobs finished in DQE-9000 bring repeat business.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Co., Detroit 4, Mich.



DITZLER

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Auto-Lite Field Engineers Equipped with Special Tester

The Electric Auto-Lite Company announces that it now has five trained engineers in the field to trouble-shoot spark plug problems.

These men cover the entire United States, giving on-the-spot analyses of spark plug problems in service establishments, addressing dealer and service meetings, advising and educating company salesmen and following up on cus-

tomers complaints.

Pride of these engineers is a di-electric tester, modeled after the testing equipment used by the factory on production plugs. Unlike commercial testers, the di-electric device scientifically determines the electrical soundness of a spark plug.

A compact unit, the tester consists of a transformer to step up ordinary house current to 20,000 to 30,000 volts, a rheostat to con-

trol this voltage, and a pump which fills a built-in well with di-electric transformer oil. A spark plug is placed in the well so that the oil will close the electrode gap. Voltage is sent through the plug by attaching a terminal. Since it cannot pass across the electrode gap because of the oil, the current will seek the shortest path to the shell. On a sound plug, it will travel visibly over the top of the insulator. If there is a defect in the insulator, the current will travel through this defect to the shell. Thus the tester makes it possible to detect the principal spark plug fault which can't be found by careful inspection.

The tester can also be used to compare plug wires. By sending equal voltage through two wires and varying the width of a gap to be jumped at the end of the wires he can compare the efficiency of the wires and determine if there is leakage in insulation of other difficulties.

Harbaugh Promoted in Pontiac Service Branch

John C. Harbaugh has been named assistant general sales manager of the Pontiac Motor Division according to a recent announcement by general sales manager L. W. Ward. Harbaugh will assist in coordinating activities of dealers across the country in their service operations.

"VIXEN" FILES ARE MADE ONLY BY HELLER

*Give your men
a "VIXEN" file -*

*... and then watch
how quickly
they learn to do
expert refinishing*



In the hands of an expert, a "VIXEN" file produces a quality finish—good as new. And with this file your men can't help but become expert refinishers quickly.

For it's an easy file to use. The sharp milled curved-teeth "plane" the surface, actually shearing the metal to a bright finish free from scratches, tracking or grooving. No loading up... no clogging of teeth.

See your jobber. He has a wide assortment, including the new preferred "VIXEN" babbitt-cut file.

HELLER BROTHERS COMPANY



*America's Oldest File Manufacturer
Newcomerstown, Ohio*



Easy to identify "VIXEN"
by the white envelope

For your own protection against imitations, look for "VIXENS" in factory-sealed white envelopes, packaged in a white carton.



HANDY HOLDER curves "VIXEN" to fit surface. Only a "VIXEN" can be re-sharpened again and again.

VIXEN

Trade Mark Reg. U.S. Pat. Off.

MILLED CURVED-TOOTH FILES

MADE ONLY
BY
HELLER

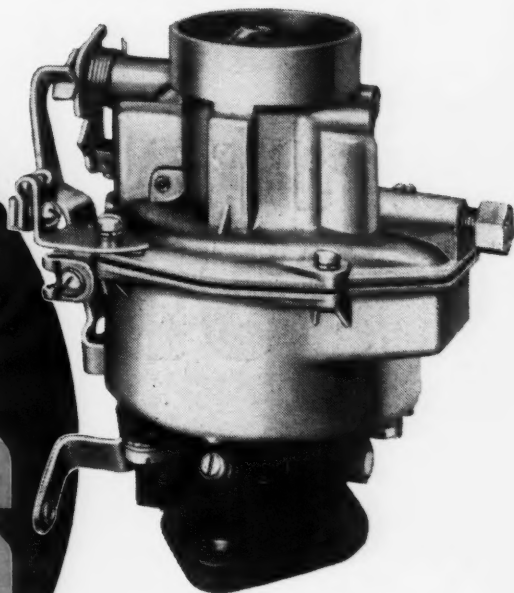


*"I'd ask for your hand if I thought
it didn't have the thumb you'd
keep me under!"*

MADE TO ORDER

for a Big Market!

ROCHESTER CARBURETORS



can be installed on more than 11,000,000 Chevrolets!

Double-Barreled Opportunity!

Serve Chevrolet owners best by making Rochester Carburetors readily available to them.

Serve yourself best by stocking the low-inventory, fast-turnover Rochester that serves all Chevrolets* built since 1932.

*Except Cab-over-engine truck models

ROCHESTER CARBURETORS NOW ORIGINAL EQUIPMENT ON THESE GREAT CARS

CHEVROLET OLDSMOBILE PONTIAC "6"

1950-51 models

1949-50-51 models

1951 models

Show 'em and you'll Sell 'em

Order a beginning assortment of Rochester Carburetors and you'll also receive an attractive display and window streamer to help you get your full share of the live prospects now driving Chevrolets. Talk to your distributor, or write us, today.



ROCHESTER PRODUCTS

DIVISION OF GENERAL MOTORS CORPORATION, ROCHESTER, NEW YORK

**EASY TO SELL AND INSTALL,
ROCHESTER PROVIDES THESE
NINE IMPORTANT FEATURES:**

- No fuel loss on any incline.
- Smooth acceleration while turning—at any speed.
- Easier starting in hot weather.
- Continuous fuel flow.
- Power mixture readily available.
- Acceleration—hot or cold.
- No metering adjustments.
- All metering parts in cover.
- Permanent idle tube.



**ROCHESTER CARBURETORS—
A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS**



GUMOUT

Carburetor Cleaning Service Means **NEW** Business For Dealers Everywhere

because...

- ★ You can now offer a needed service... GUMOUT Carburetor Cleaning! You can clean carburetors "on-the-engine" in less than 20 minutes!
- ★ Every car on the road is a prospect! Every carburetor should be cleaned with GUMOUT regularly... at the first sign of engine trouble... with every tune-up job!
- ★ GUMOUT FORCED FLOW cleaning eliminates all trouble such as hard starting, stalling, popping, flooding, lost power, high gas consumption caused by gummed-up, clogged-up carburetors!
- ★ GUMOUT cleans carburetors at a total dealer cost of only 90c. A \$3.00 GUMOUT Carburetor Cleaning Job will net \$2.10 profit... or \$50.40 profit per case!

GUMOUT

FORCED-FLOW

"on-the-engine"

CARBURETOR CLEANING

Once upon a time...

The only service for carburetors was a complete overhaul job or a carburetor adjustment.

Then, along came...

A brand new service . . . GUMOUT and the GUMOUTER . . . enabling dealers everywhere to completely clean carburetors "on the engine."

Gumout forced-flow cleaning...

is the *only* way that the "16 *internal* pass-ports to carburetor trouble" can be cleaned without removing the carburetor from the engine!

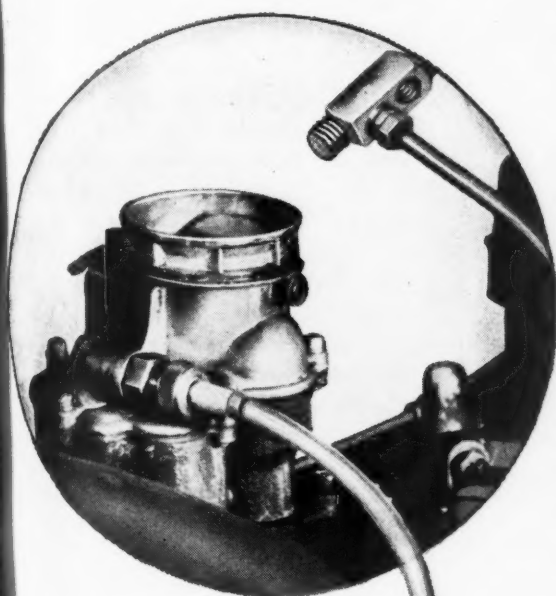
Gumout and Gumouter...

will put you in the carburetor cleaning service. Order them from your jobber. If he can't supply you, send us your order and your jobber's name . . . and we'll give you a can of GUMOUT free! Big 3-color GUMOUT Wall Chart plus GUMOUT Sales-Service Folder supplied, at no cost, with every case!

GUMOUT is not an engine "chemical." It is made specifically for cleaning carburetors. No other product is similar to it.



PENNSYLVANIA REFINING COMPANY
Cleveland 4, Ohio
Butler, Pennsylvania Edgewater, New Jersey
Refiners of Penn Drake Products since 1880



WE CLEAN THE "16 PASS-PORTS" TO CARBURETOR TROUBLE WITH GUMOUT



THE GUMOUTER

A PROFESSIONAL MECHANIC'S TOOL FOR CLEANING CARBURETORS ON THE ENGINE



GUMOUT DIVISION

Pennsylvania Refining Company
2686 Lisbon Road, Cleveland 4, Ohio

(MA)

Please send

- _____ cases of GUMOUT (24 pints each) at \$21.60 per case
- _____ 1-gallon cans of GUMOUT at \$6.45 each
- _____ GUMOUTERS at \$2.95 each
- _____ additional information

Name _____

Address _____

City _____ Zone _____ State _____

Jobber's Name _____

New Products Continued from Page 54

10 inch semi-pneumatic wheels. It has a double outlet on the back and is available in 115 volts and 220 volts models. The charger has its own electric time clock. The Q-300 can also be used as a gang "slow charger" for as many as 20 batteries hooked up in line. Capacity is 100 amps. and a safety

cut-off protects the machine at all times. The charger is equipped for individual cell testing.

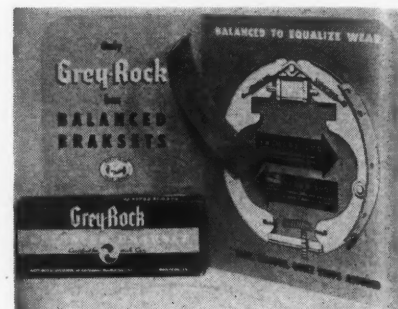
321. Body Panels

Schofield Manufacturing Company are producing 7 new 1949, '50 and '51 panels as an addition to their complete lines. These

items are for late models of Chevrolet, Buick, Chrysler, Dodge, DeSoto and Mercury.

322. Brake Sets

Grey-Rock Division of Raybestos-Manhattan, Inc., is distributing to its jobbers a four-color display featuring Grey-Rock Balanced Brake sets. Finished in red, black,



grey and white the display makes use of a popular Grey-Rock Balanced Brakset and demonstrates how Grey-Rock brake linings are balanced to insure smooth stops.

323. Socket

Bonney Forge & Tool Works is marketing a new straight walled 7/16 inch socket with 1/2 inch drive for Cadillac connecting rods. The overall length of the socket is 1 3/8 inches and it is specially designed to fit the close tolerance on Cadillac connecting rods in models prior to 1949.

(Continued on page 112)

MIKE IT RIGHT...

WITH **CENTRAL READ-RITE**

PATENT PENDING

CENTRAL MIKE SAYS:
"HERE'S THE FIRST BIG IMPROVEMENT IN MICROMETERS IN YEARS!"

For rapid, sure-fire readings you can't beat Central's Read-Rite Micrometer. There's no guesswork or chance of costly mistakes — the Read-Rite almost reads itself. As you turn the thimble, numbers in the windows give the measurement at a glance, eliminating the computations usually required in taking micrometer readings.

Think what the direct-reading feature can mean in speeding up measurements and eliminating costly errors! The Read-Rite is a real time and money saver — it pays for itself on the first major job and it's made to give a lifetime of Central Certified Accuracy.

The Read-Rite is available in two polished frame models, 0 to 1" (illustrated) and 1" to 2", and six black enameled frame models with a combined range of 0 to 6". See your jobber or write for bulletin.

THE CENTRAL TOOL COMPANY
 462 WELLINGTON AVE., CRANSTON 10, R. I.

FOR HALF A CENTURY
 SPECIALISTS IN FINE MICROMETERS



This is Ed Bierkness, Chevrolet dealer of Barrington, Illinois. He reports his lubrication sales have...

more than tripled!



... and he gives credit to the **PURE OIL PLAN FOR CAR DEALERS!**

Pure Oil experts helped dealer Bierkness relocate and modernize his lubrication department.

Now, he reports a 250 per cent increase in lubrication sales, and more customers for his other services, too! He writes:

"This increase... is largely due to active merchandising of the service with Pure Oil assistance and the featuring of Purelube Motor Oil and lubricants."

This is the way the Pure Oil Plan for Car Dealers pays off—and can pay off for you! For full details, see your Pure Oil salesman or local Pure Oil office—today.

THE PURE OIL COMPANY • General Offices: Chicago



NOTE: Purelube, the sure motor oil, is premium quality-PLUS! Since its introduction, it has met all requirements where "heavy-duty" oil is recommended by the car manufacturer.



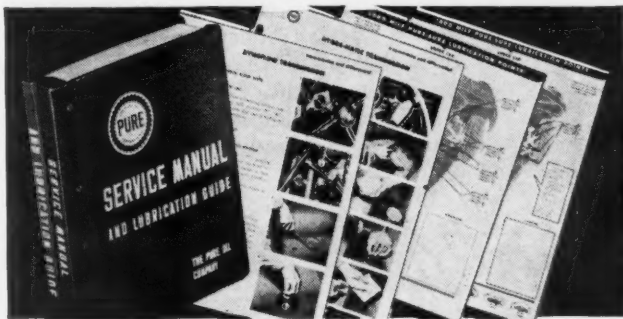
Be sure with Pure

Purelube

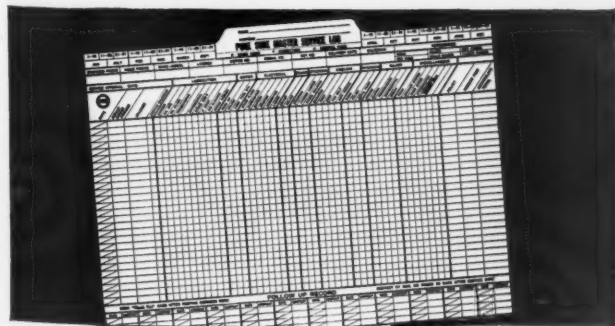
THE SURE MOTOR OIL



The Pure Oil Plan for Car Dealers includes practical help to a modern, streamlined service department, like this one at Ed Bierkness Chevrolet, Inc.



Pure supplies Pure Oil's famous Service Manual, containing illustrated step-by-step procedures and easy-to-follow under-chassis and under-hood lubrication charts.



Pure provides you practical business-building record forms and follow-up forms, designed by car dealers to help you sell more lubrication service jobs.



Pure Oil's complete line of widely advertised, top-quality products includes Purelube Automatic Transmission Fluid Type A, approved by leading passenger car manufacturers.

New Products Continued from Page 110

324. Anti-freeze Kit

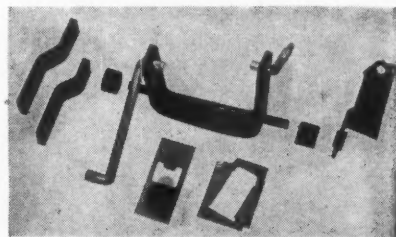
Commercial Solvents Corporation announces that the Nor'way and Peak anti-freeze sales kit for 1951 will contain a new improved pocket-size anti-freeze slide calculator. This device is designed to do away with any calculations of amounts of anti-freeze needed for either first filling or additional

protection with Nor'way or Peak anti-freeze. The calculator also shows up-to-date cooling system capacity data for all cars in current use.

325. Clutch Parts

Lempco Automotive, Inc. has entered the clutch pedal linkage

replacement field with a new line of parts made up in kits for various makes and models of cars and light trucks. Lempco claims that not replacing clutch linkage is a prime cause of costly customer kickbacks on clutch jobs. Worn linkage decreases the effectiveness of the clutch operation from pedal to clutch assembly.



The replacement of worn linkage is essential to new clutch operation and life, states Lempco. Illustrated is the clutch replacement kit for the Pontiac car.

326. Hand Soap

Speco, Inc. announces production of a new industrial powdered hand soap and grease remover known as "Sopec." Suitable for use in washroom dispensers or packaged in handy containers, Sopec is claimed to combat industrial dermatitis. It is also described as hygienically safe, non-abrasive, soothing, fast acting and economical. Sopec is furnished in 6 ounce containers, 5 lb. fiber packages, and 170 lb. fiber drums.

(Continued on page 114)

A CHAMP IN DELIVERIES

...Even To-day!

When Oil Filter and Refill sales depend upon prompt deliveries . . . CHAMP is really "Champ!" Prompt shipments to-day, as always, to old customers and new customers alike! No wonder "Champ" is called "The Fastest-Growing Line of Oil Filters and Refills!"

Cars, trucks, tractors, buses . . . more than ever . . . need the care provided by Champ's performance-certified Filters and Refills. Reap new profits with Champ's "Time To Change" merchandising program . . . get full details today! Write especially for Champ's newest Money-Maker . . . Catalog #3 . . . with its additional Refill listings and the most simplified cross-index ever . . . easiest and fastest to use!

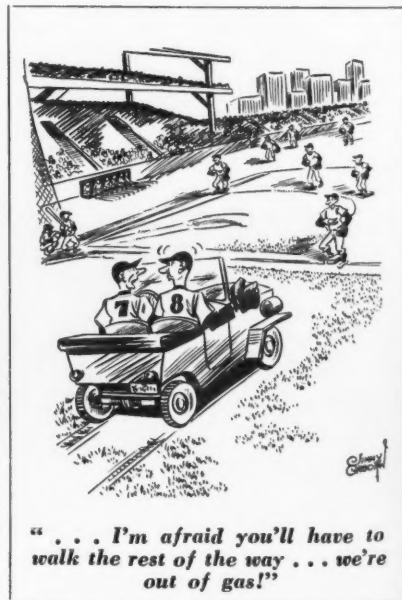
CHAMP

OIL FILTERS & REFILLS

WRITE NOW FOR CATALOG #3

CHAMPION LABORATORIES, INC.
MERIDEN, CONN., U. S. A.

CONTACT YOUR JOBBER TO-DAY



Grips silently...



WAGNER CoMaX BRAKE LINING...

is unsurpassed for quick, safe, smooth stops

Only in Wagner CoMaX—backed by the best known name in brake service—do you find all these desirable qualities:

1. **UNIFORM TEXTURE** assures same type of brake surface always being exposed to the drum.
2. **UNIFORM FRICTION** permits smooth, even deceleration.
3. **NON-COMPRESSIBLE**—and won't swell. Does not require frequent adjustment.
4. **CONTAINS NO ABRASIVE MATERIAL.** Easy on drums.
5. **LONG-LIVED** and age proof—will not deteriorate with age.

You get *complete* coverage from one dependable source with CoMaX. Wagner CoMaX Brake Lining, like Wagner Lockheed Hydraulic Brake Fluid and Parts, is warehoused throughout the United States and Canada, and is available everywhere through Wagner jobbers.

You can depend on **WAGNER QUALITY** because Wagner products are used as original equipment by automobile, truck and trailer manufacturers.

For details, consult your Wagner Jobber—or write us for free copies of Bulletins HU-17H and HU-197... **TIPS FOR BETTER BRAKE SERVICE.**

Wagner Electric Corporation
 6498 PLYMOUTH AVE. • ST. LOUIS 14, MO.
 (Branches in Principal Cities and in Canada)



Wagner

...the best known name in brake service

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID • NoRoL • CoMaX BRAKE LINING • AIR BRAKES

TACHOGRAPHS • ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL CRANE BRIDGE BRAKES



New Products Continued from Page 112

327. Grinder Info

Landis Tool Company is offering a new bulletin which describes the new Landis 5 in. x 8 in. Type H precision piston grinder. The bulletin contains pictures, description and specifications.

This grinding machine will grind cam shaped pistons on a high production basis. Adjust-

ment is provided for varying the amount of eccentricity of the piston.

328. Car Wash

Adept Industries, Inc., is marketing a new car wash solution, claimed to clean a car with only one pail of water at a cost of

only 4½¢. According to the manufacturer, only one tablespoonful of this new water-saving product, called "No Hoze Car Wash," added to a 10-quart pail of water, changes the water to suds. This solution is applied to the car with a sponge. When the suds are removed with a damp towel, all mud, dirt, film, oil and grease comes off with it, leaving the car clean.

329. White Tire Paint

The Akron Paint and Varnish Co. is producing No. 82 Imperial White Tire Paint, said to be so dense and opaque that two coats will produce a pure white sidewall on even a black tire. According



**JOE STALIN
WON'T LIKE
THIS AD! ***

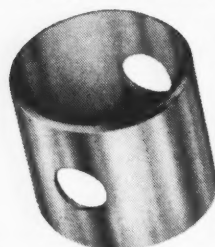
**ENGINES LIVE LONGER
WHEN YOU REPLACE CAM BEARINGS
with Dura-Bond all rounds**

Worn cam bearings can be a major cause of oil loss, resulting in starvation of main and con rod bearings. *This means premature engine breakdown!*

Cam bearings are too often overlooked. Yet surveys prove that premature breakdown is most often caused by failure to replace.

*When it's time for an overhaul,
it's time to replace!*

* Anything that keeps American cars and trucks running longer is sour grapes to Joe and his Kremlin kids. Replacing cam bearings with Dura-Bond *all rounds* is one sure way to guarantee maximum engine mileage. In Joe's book, that's for the birds.



The ONLY TRUE ROUND

Tolerances are perfect before and AFTER installation. The *all round*, having neither *SPLIT* nor *INTERLOCK* = superior performance, durability, and ease of installation.

KEEP 'EM ROLLING

WRITE FOR CATALOG . . .
listing our complete line of standard bore and common undersize cam bearings, main and con rod bearings.

DURA-BOND BEARING CO.
Box C, 715 Loma Verde Avenue
Palo Alto, California

DURA-BOND

CAMSHAFT BEARING SPECIALISTS
CAMSHAFT, CON ROD, MAIN BEARINGS

HANDY COUPON FOR ORDERING DURA-BOND CATALOG

Please send us your complete catalog today.

Name Firm Name

Address City State

Dura-Bond Bearing Company, Box C, 715 Loma Verde Ave., Palo Alto, Calif.



to the manufacturer this products bonds with the sidewall rubber to become a part of the tire. It is
(Continued on page 116)



BUY IT ON TIME !

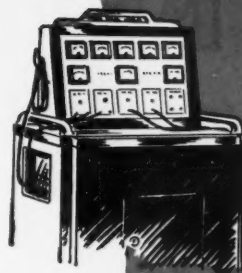
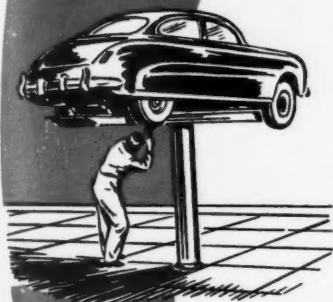
**ASK YOUR
JOBBER ABOUT**

AEP

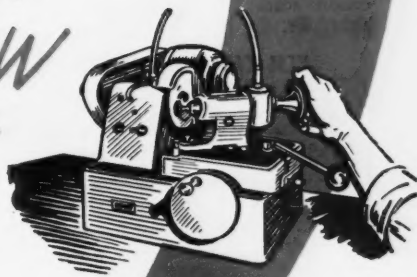
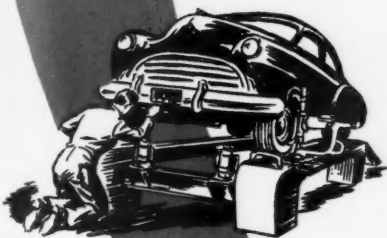
ONE CONTRACT • ONE COST • INSURANCE INCLUDED



*The best
equipped shop gets
bigger jobs and
more of them!*



*Get your new
equipment **NOW**
pay for it
LATER with*



AEP
AUTOMOTIVE EQUIPMENT PLAN

Ask your jobber

**COMMERCIAL CREDIT
CORPORATION . . .**

A subsidiary of Commercial Credit Company, Baltimore...
Capital and Surplus over \$100,000,000...more than 300
offices in principal cities of the United States and Canada.

New Products Continued from Page 114

also used to restore the original beauty of badly scuffed and stained white sidewalls.

330. Anti-freeze Tester

The Imperial Brass Mfg. Co. announces the No. 556-TA Universal anti-freeze tester. It tests alcohol, methanol and ethylene

glycol. This tester features direct reading operation, and has a slide calculator that indicates the protection point of the solution. Thermometer and chart are hermetically sealed under glass.

331. Merchandiser

Challenge Division of the Penens Corp. is introducing a new

counter-size "Little Giant" tool merchandiser. It displays 10 complete sets and 12 individual items of everyday-demand Challenger tools, such as pliers, wrench sets and socket sets in colorful high-gloss tool boxes. The cabinet measures 12 in. deep x 30 in. high x 22 in. wide.

332. Turn Signals

Yankee Metal Products Corporation is producing a new flashing turn signal set, No. 973. The manufacturer states that the signals fit virtually all cars, and makes use of four lamp units so that the turn signals are independent of the parking light and the

REPLACE • REPAIR • REBUILD WITH . . .

KEM Prefitted ignition parts

MODERN HIGH compression motors demand the precision balance that Kem engineering builds into KEM PREFITTED Ignition Parts. Backed by 33 years of experience in manufacturing high speed and heavy duty ignition parts, KEM PREFITTING is a series of precision tests that assures an easy and exact fit.

KEM CABINET ASSORTMENTS FOR EASIER SALES

Contained in the merchandiser illustrated herewith is one of Kem's assortments of Prefitted ignition parts — a complete balanced assortment for every need. A feature of Kem Cabinets is the "Inventory Control" ★ where grouping of kindred parts allows instant accessibility. All parts are individually boxed and constantly in sight. It tells at a glance what is on hand and what to reorder. Remove any box and its part number shows clearly on card until replaced. Stock is always active, always neat and attractive. Adjustable aluminum dividers keep boxes in place.

MANUFACTURERS OF FUEL & VACUUM PUMPS WITH THE FAMOUS

Lifetime BUNALON DIAPHRAGM

KEM MANUFACTURING COMPANY, INC.
FAIR LAWN, NEW JERSEY



brake lights. The mounting set includes two white lamps, two red lamps, switch, flasher, wire, hardware, and instructions.

(Continued on page 118)



Going like WILDFIRE!

With the New Plastic-Sealed Package
Durkee-Atwood V-Belts are Guaranteed New...

Factory Fresh

WHEN YOU
BUY 'EM!

Factory Fresh

WHEN YOU
SELL 'EM!

SHOW YOUR CUSTOMERS THE CLEANEST,
FRESHEST STOCK OF V-BELTS IN TOWN!

You see it—you want it! No wonder Durkee-Atwood's Plastic-Sealed *Factory Fresh* package has everyone talking! This sensational package not only glistens—it excludes dust, dirt, sunlight, moisture, oil and grease, and holds back oxidation. Think what that means to you and your customers—Durkee-Atwood V-Belts are GUARANTEED NEW... *Factory Fresh* as long as the sealed package is unbroken!



Interchangeability Listing

For your convenience, every *Factory Fresh* package carries a cross-reference listing of numbers of all popular belts replaced by the belt inside. It also specifies inside circumference, outside circumference and top width!

Car Applications

On the back of the *Factory Fresh* package we catalog the makes and models of cars serviced by the Durkee-Atwood V-Belt. We even include car manufacturers' own belt numbers to make replacements easier for you.

Greater Profits for You

If what you've read and heard about Durkee-Atwood *Factory Fresh* V-Belts sounds good, listen to this. You can have *greater profits per sale* while giving your customers the *greatest V-belt value* on the market today!

--- CLIP AND MAIL THIS COUPON TODAY! ---

DURKEE-ATWOOD CO.

Dept. MA 7, 215 N. E. 7th St., Minneapolis 13, Minn.

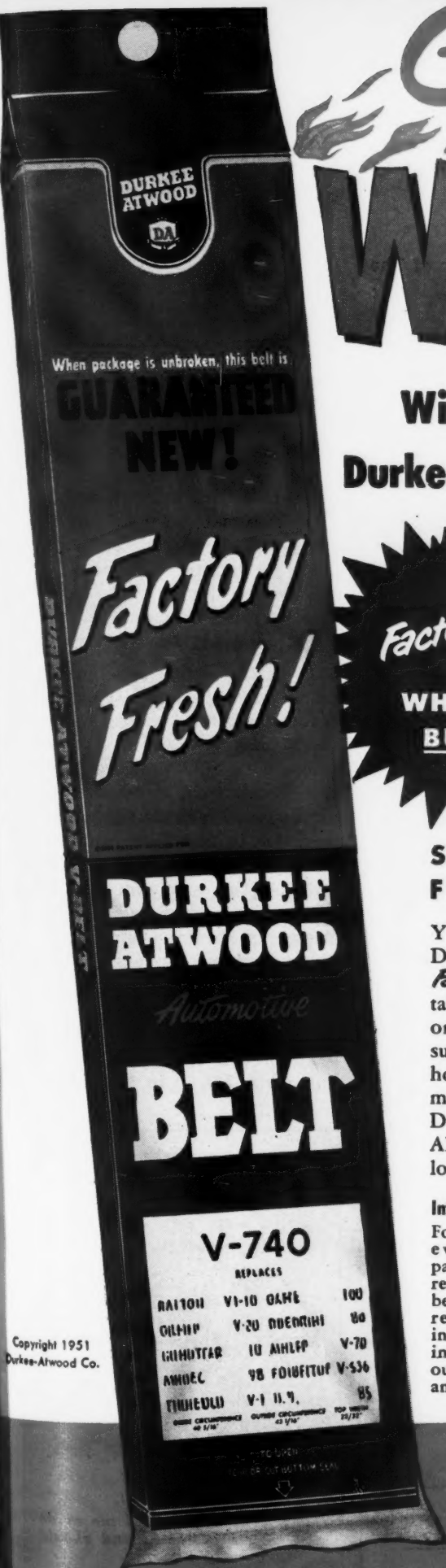
Gentlemen: Without obligation, send me more information about Durkee-Atwood *Factory Fresh* V-Belts and the name and address of your nearest jobber.

Name _____

Firm _____

Address _____

City _____ State _____



Copyright 1951
Durkee-Atwood Co.

DURKEE-ATWOOD CO.

Manufacturers of V-Belts, Rubber and Chemical Products Since 1910

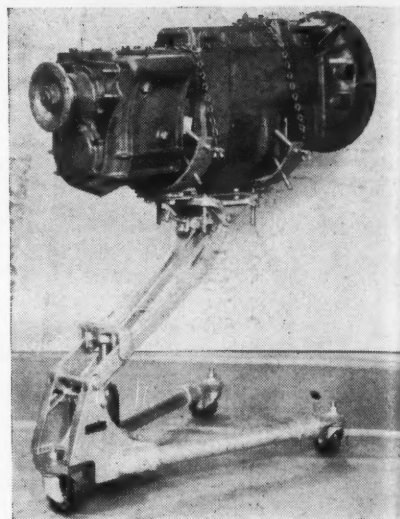
333. Muffler Rack

Maremont Automotive Products, Inc., announce a newly improved rack for stocking and displaying mufflers. This rack is designed to handle the new, wider, oval mufflers. Made of heavy gauge wire, the rack stocks 16 to 18 mufflers in a floor space of 30 x 31 inches. It facilitates re-ordering, as the

stock numbers are shown in identification labels which fit into open slotted metal strips on the sides of the rack.

334. Unit Lifter

The Automotive Division of The Cleveland Pneumatic Tool Company is now producing a new heavy duty unit lift. Known as



the Aerol Lift, the new unit uses four inch casters for ease of movement and a new adapter to handle work on larger truck units.

HAVE YOU CHECKED THE ADVANTAGES OF THESE OUTSTANDING CRANKSHAFT GRINDER FEATURES?



No. 15 ONLY STORM-VULCAN CRANKSHAFT GRINDER

gives you ALL of these advantages which mean fast production, high quality work, ease of operation and economy. Send for full information today.

KOTAFIN GRINDER ATTACHMENT

The original crankshaft finishing machine. Gives reground surfaces smoother, wear-resisting finish.



1. Double Action Table Traverse
2. Dual Cross-Slide Heads
3. Rapid Wheel Retraction
4. Heavy Box-Type Ribbed Base
5. Work Table Locked to Sub-Table with Temken Bearing
6. Heavy-Duty Super Precision Spindle
7. Hardened Ground Steel Strips on Headstock and Tailstock Base
8. Spring-Balanced Tailstock Spindle
9. Controls Located for Operator Convenience
10. Dynamic Center Balance for Smooth Grinding

Write or wire today FOR NEW CATALOG with complete information on all these features.

STORM VULCAN
INCORPORATED
2504 COMMERCE ST., DALLAS, TEXAS

Firm Name _____

Address _____

City _____

State _____

Truck Prices Change As Companies File with OPS

Ford and Dodge have increased truck prices, International Harvester has reduced prices, and other truck makers have filed ceiling prices with OPS but have not yet been heard from as to whether or not they will take advantage of any increases in cost they can justify. Dodge raised its prices 1½ to 6 per cent. At the same time it reduced prices of optional equipment an average of about one per cent. Ford raised prices an average of 3.8 per cent on all trucks in its line with the increases ranging from \$10.50 to \$87.75. International, however, went the opposite direction, reducing prices \$45.00 to \$145.00.



"This is what you told me to do and this is what I found should be done."

DeVilbiss



PROFESSIONAL REFINISHING FOR YOU!

Precision-made DeVilbiss products—Spray Equipment, Air Compressors, Exhaust Systems and Hose—simplify refinishing problems and insure professional results. With them you can turn out factory-quality finishes and build customer satisfaction. Investigate DeVilbiss equipment, used by the majority of vehicle manufacturers and leading refinishers everywhere.



TOUCH-UP IN NO TIME!

That front fender will look "good as new" when it leaves this efficient DeVilbiss auto spray booth. That's how DeVilbiss Paint Shop equipment pays off.

Customers are actually astonished at the new look their cars get, and such customer satisfaction builds business.

DeVilbiss makes all types of Spray

Booths, in many sizes, capable of handling up to 8-10 complete re-finish jobs per day. They are built with scientifically planned illumination, filtered air intake, efficient exhaust system, and many other important features.

With DeVilbiss Spray Guns, Air Compressors, Paint Tanks, Air Transformers and Hose, you'll find a DeVilbiss-equipped Paint Shop

can account for a sizable increase in your profits.

Your local DeVilbiss Jobber or Branch Office will gladly give you complete information. Why not call or write now, and take the first step toward more profits in your business?

THE DEVILBISS COMPANY
Toledo, Ohio

Windsor, Ontario • London, England
Santa Clara, Calif.

Branch Offices in Principal Cities



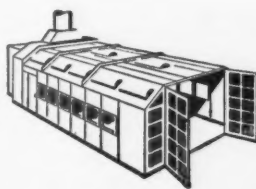
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

FOR BETTER SERVICE, BUY

DeVilbiss



These "LIQUID ASSETS" keep your profits pouring in!



U.S.I. PERMANENT

—the WEATHERPROOF anti-freeze!
Start selling it in early Fall! Can't boil away
— one filling lasts all Winter! Can't cause
rust! Nothing finer made!



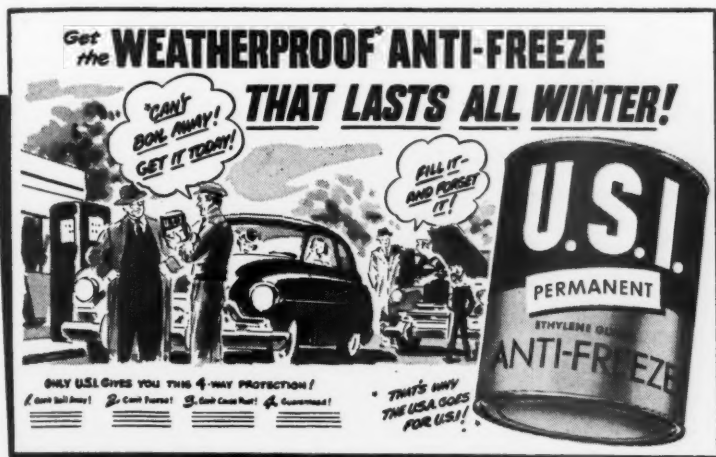
SUPER PYRO

— the POPULAR-PRICED anti-freeze!
For years one of the fastest and biggest sellers!
Super-safe: no freeze-ups — no rust —
no odor! Economical!

**GET YOUR ORDER IN NOW! HAVE YOUR SUPER PYRO AND U.S.I. PERMANENT
ON HAND FOR THE ANTI-FREEZE SEASON!**

U.S. INDUSTRIAL CHEMICALS, INC.

Powered by the Biggest Ad Campaign in U.S.I.'s Long History!



**NATIONAL
MAGAZINES!**

9 big-space, full-color U.S.I. Permanent ads — more than ever before! — in the Saturday Evening Post, Collier's, and Look!



Super Pyro's sensational talking-auto-horn radio spots — day in, day out, week in, week out — all through your peak selling season!



**OUTDOOR
POSTERS!**

Super Pyro's famous Hoff cartoons — on more billboards than ever before! — reach your customers while they're actually at the wheel!

YOU CAN RELY ON YOUR U.S.I. FRANCHISE

- ★ for top profits! — none higher! Standard-priced so you've got to make money!
- ★ for top acceptance! Pre-sold by heavy national advertising and U.S.I.'s reputation!
- ★ for top quality! U.S.I. has been making fine anti-freeze since 1915! Don't risk selling makeshift products!

Radioactive Tires Used In Wear Tests

Radioactive materials are being used in special tires by rubber research scientists conducting tests to determine tread wear.

This new method, according to Dr. William L. Davidson director of physical research at the B. F. Goodrich Research Center, has the advantage of giving instantaneous data and enabling the evaluation of such factors as the type of road surface and temperature, speed,

tire pressure and transmission of power on tread wear.

There are no completely satisfactory laboratory tests for determining tire tread wear, Dr. Davidson said, and the usual method consists of conducting actual road tests by large fleets of automobiles and trucks. These are costly and time consuming since a tire must be run at least 5,000 miles to observe measurable wear, he pointed out.

Dr. Davidson obtained his wear

data by using a portable Geiger counter mounted on a small cart to scan the track made by the radioactive tire. He also took X-ray photographs of the "hot" tire tracks to measure accurately the amount and size of the particles worn off the tire. Some of the exposures ran as long as several days.

In addition, Dr. Davidson mounted a sheet metal air scoop behind the tire and two inches above the road to measure the amount of rubber blown into the air. The scoop tapered into a standard vacuum cleaner hose where a paper filter trapped the minute rubber particles. Their radioactivity later was measured in the BFG research laboratory.

For Top Flight Gas Welding

Choose from AIRCO'S complete line of



Oxyacetylene Welding Supplies

Time Proved . . . Job Tested
... Money Saving
Available from Local Stocks

That's right! Whether you use a popular Airco gas welding rod, flux, or brazing alloy for production or maintenance operations . . . you're certain of top-notch work—ask any one of the thousands of welders who swear by these Airco oxyacetylene welding supplies.

This well-recognized reputation for top performance didn't just happen—more than thirty years' experience and development have gone into the manu-

facture of these outstanding gas welding supplies . . . know-how that produces high quality, reasonably-priced items that guarantee a job done faster, done better, done easier and done at less net cost.

For further information about Airco's oxyacetylene welding supplies which includes a complete line of rods, fluxes and brazing alloys, write your nearest Airco office or Authorized Dealer for a free copy of Catalog 12.



AIR REDUCTION

AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Offices in Principal Cities

Dodge Advisory Conference Names Regional Chairmen

Chairmen have been chosen by the 21 regional committees which were elected earlier this year by the 4,300 Dodge dealers throughout the nation in the first election under the Dodge Dealers Advisory Conference.

Names of the chairmen within the 21 regional committees were announced by L. J. Ouellette, director of the Dodge Dealers Advisory Conference. The national conference was set up early this year by a representative group of 47 dealers "to promote the best possible public relations for both dealers and Dodge and to promote the best possible dealer-factory relations through mutual analysis, consultation and conference with its own membership and with Dodge."

The present national committee of 47 members which set up the charter and organized the conference will hold office through 1951. After that time the chairmen of the 21 regional committees, along with seven members appointed at large throughout the country by Dodge, will comprise the national committee of 28 members. The 21 regional committees now existing will make recommendations to the national committee, which will hold regular meetings semi-annually in Detroit and also any special meetings which may be called for special important problems.

**You can be
completely
confident..**

with..



FITZGERALD

Metallic Aluminum-
Fused-Oxide
Steel Asbestos

GASKETS*

says P. J. Fitzgerald

New no longer, but *performance-proven*, Fitzgerald Metallic Aluminum-Fused-Oxide Steel Asbestos Gaskets* have won world-wide acceptance for their ability to withstand the extreme pressures and heat of modern high compression engines under all sorts of conditions for several years now.

They're readily available everywhere... from leading jobbers throughout the United States and Canada and are exported to the rest of the world exclusively by the nation's largest automobile manufacturer.

When you install Fitzgeralds... as replacements or as original equipment... you can be sure of a lasting, perfect seal.

P. J. Fitzgerald

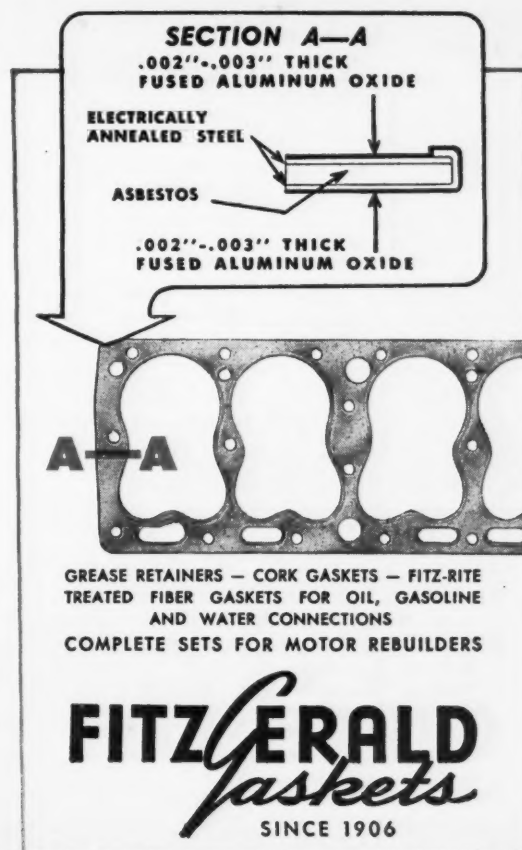
President

*Service mark registration pending

THE FITZGERALD MANUFACTURING COMPANY
Torrington, Connecticut

CANADIAN: FITZGERALD, LTD.
TORONTO, CANADA

BRANCH AND WAREHOUSE
LOS ANGELES, CALIFORNIA



GREASE RETAINERS — CORK GASKETS — FITZ-RITE
TREATED FIBER GASKETS FOR OIL, GASOLINE
AND WATER CONNECTIONS
COMPLETE SETS FOR MOTOR REBUILDERS

FITZGERALD
Gaskets
SINCE 1906

Service Suggestions . . . Continued from Page 55

Check for Fuel Leakage On Chevrolet Cars

On investigating in a number of cases where complaints have been registered on excessive gas mileage, it has been found that gas leakage was present at the carburetor inlet. The same thing has also been found where the complaints stated a bad

gas odor in the interior of the car during operation. The leakage at this point is nearly always traceable to improper assembly of the fuel line to the carburetor. Inasmuch as the fitting in the carburetor body has a tapered thread, it is of the utmost importance that this fitting not be loosened during removal of the fuel line, as gas

leakage will result at this point also.

Always remember, before the installation of the fuel line, to check the fitting for tightness, then hold the fitting with a wrench while installing the fuel line. This will eliminate the possibility of destroying the fitting seal.

Hard Shifting Due to Bent Shift Rail

Two different types of lock screws have been used to anchor the shift forks to the shift rails on Plymouths. One type has a slotted head and the other type has a hex head. Over-tightening of the hex head type may cause a binding of the shift rail.

The lock screw is tapered to fit into the tapered hole of the shift rail. If the starting thread interferes with the top of the tapered hole, the screw will not seat properly. You may reduce this interference by grinding off enough of the starting thread to prevent proper seating of the screw.

To check for a bent rail, roll the rail over a flat surface. If it does not roll evenly or if it rocks, a new rail should be installed.

Tips on Tightening Chevrolet Cylinder Heads

Cylinder head leakage, particularly on Chevrolet 235 engines, has been caused by improper tightening of cylinder head bolts and the settling of the cylinder head gasket. This gasket is of a composition

(Continued on page 126)



Marlite plastic-finished wall and ceiling panels eliminate periodic painting and redecorating expenses . . . reduce overhead. *Maintenance costs go down when Marlite panels go up!*

Modern, attractive Marlite keeps its beauty—the plastic finish seals in the sparkling, lustrous colors. Smudges and stains whisk away with a damp cloth. The large panels go up quickly over old walls or new, ban-

ish lingering paint odors and redecorating muss and fuss . . . put heavy-traffic areas back into service fast.

For waiting rooms, rest rooms, offices, salesrooms, parts and service departments, lubritoriums, wash rooms, displays, fixtures, and other areas where practical beauty is desired—*Modernize with Marlite*. See the 63 smart color and pattern combinations at your lumber and building material dealer. Or mail coupon.

for creating beautiful interiors

MARSH WALL PRODUCTS, INC., Dept. 727, Dover, Ohio
Subsidiary of Masonite Corporation

Without obligation, please send full-color Marlite literature showing typical installations, patterns and colors available, and other helpful remodeling and building information.

Name _____
Firm _____
Address _____
City _____ State _____



You can stake your reputation on
PERFECTION
 "Certified" Parts!



Perfection Products include:

Silent Timing Gears, Metal Timing Gears, Silent Timing Chains, Sprocket Gears, Transmission Gears and Parts, Differential Ring Gears and Pinions, Differential Cases and Parts, Fly Wheel Gears, Clutch Plates, Pressure Plates, Clutch Cover Assembly Parts, Clutch Forks and Parts, Clutch Throwout Bearings, Clutch Rebuilders.

You—and your customers—gain when you install PERFECTION Certified Replacement Parts.

These high quality products are made especially for replacement needs. Every step of manufacture is a matter of precision workmanship to achieve "pre-fitted" uniformity, ease of installation, and long dependable service. Yes, you can stake your reputation on PERFECTION.

There is a PERFECTION jobber near you. He carries a representative stock of these quality parts and is prepared to render prompt, efficient, friendly service. If you do not know his name, write us.

Perfection Gear Company, Harvey, Ill.

Service Suggestions . . . Continued from Page 124

that will settle after a period of time and operation, which results in under-torqued bolts and subsequent leakage.

This may be improved by soaking the gasket in water at room temperature for a period of approximately 30 minutes before installation. This period of soaking will tend to soften the material in

the gasket and eliminate the possibility of any settling afterwards. After soaking, you only have to shake off the excessive water before installing.

In addition to above preventive care, it will facilitate matters to clean out the cylinder bolt hole threads and cylinder bolt threads and apply a little oil to the threads

of both. This will improve upon the relative evenness of torque application.

Always use torque wrenches and tighten in proper sequence to a final setting of 80 foot pounds. This procedure can be used on both 216 and 235 engines.

Care of New Type Chrome On Cadillacs and Pontiacs

Bright metal parts on 1951 Pontiacs and Cadillacs now coming off the line are plated by a new process and protected with a clear enamel. All chrome parts plated with the new process can best be maintained by frequent washing. Conventional car washing procedures are satisfactory where mild soaps or detergents are employed as cleaning agents.

Since abrasives and strong cleaning agents are harmful to this surface, conventional methods of chrome cleaning and polishing must be avoided.

Scratches or abrasions that occur to the protective enamel coating on the new type chrome finished parts may result in discoloration and possible damage to the surrounding area if refinishing is not done within a reasonable time. Repairing damaged or scratched sections of these plated parts, through use of abrasives, is hazardous because of the possibility of scratching through the chrome. For this reason only the damaged area

(Continued on page 128)



**Little screws
I used to lose
But now I use...**

....Herbrand's
tool-of-the-month
SCREWSTARTER

No. 373N

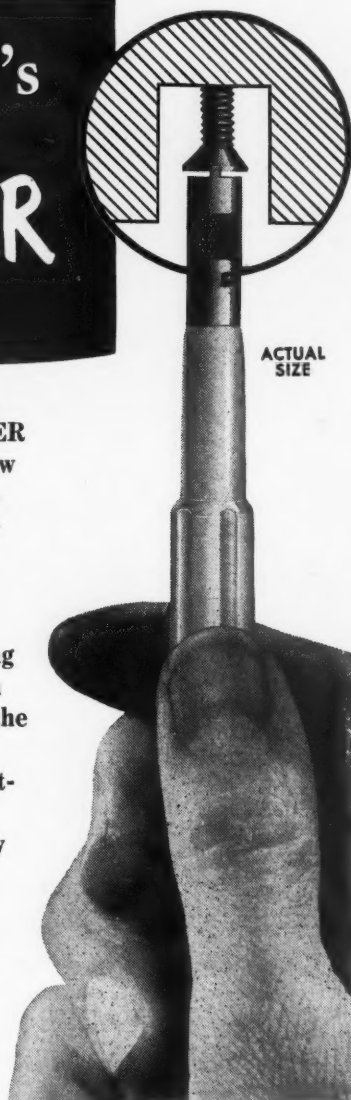
The great popularity of Herbrand's 6" and 9" lock grip **SCREWSTARTER** has resulted in the addition of the new 21½" model for under the dash electrical and radio work. Also useful for other hard-to-get-at screw starting jobs.

Handle is of shock-proof Nylon and the sharp, milled teeth of locking blade under powerful spring tension make it the best holding starter on the market. When screw is seated or sufficient torque is developed in tightening, it automatically releases. Saves *time and patience* on every job. Precision made for durability and long economical service.

Mechanic's net \$1.35



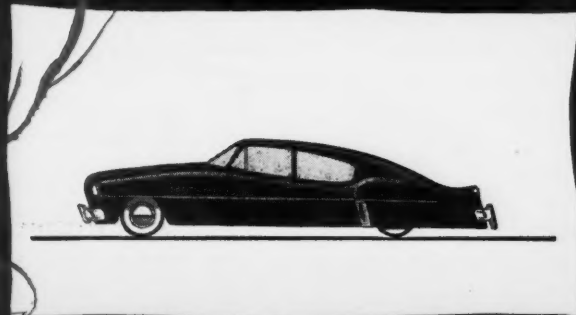
Herbrand
VAN-CHROME TOOLS
... the finest money can buy!



The No. 373N is Herbrand's current Tool-of-the-Month selection. See it at your Herbrand distributor or write us.

Herbrand Tools Fremont 7, Ohio





"design it better - make it better"

... the guiding principle of **BORG-WARNER**

that serves the Automotive Industry every day



ENGINEERING MAKES IT WORK



PRODUCTION MAKES IT AVAILABLE

Almost every American benefits every day from the 185 products made by **BORG - WARNER**



THESE UNITS FORM BORG-WARNER, *Executive Offices, Chicago*, BORG & BECK
 BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • CALUMET STEEL
 DETROIT GEAR • DETROIT VAPOR STOVE • FRANKLIN STEEL • INGERSOLL PRODUCTS
 INGERSOLL STEEL • LONG MANUFACTURING • LONG MANUFACTURING CO., LTD. • MARBON
 MARVEL-SCHEBLER PRODUCTS • MECHANICS UNIVERSAL JOINT • MORSE CHAIN
 MORSE CHAIN CO., LTD. • NORGE • NORGE-HEAT • PESCO PRODUCTS • ROCKFORD CLUTCH
 SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR • WARNER GEAR CO., LTD.

Service Suggestions . . . Continued from Page 126

should be refinished. The procedure for refinishing is as follows:

1. Feather-in the enamel scratch very lightly with only Triple-O (000) steel wool. Use of rubbing compounds, emery cloth, or sand paper must be avoided or damage will result to the chrome.

2. Clean the section with paint thinner.

3. A special refinishing material can then be applied to the prepared surface. Apply two coats, allowing suitable drying time between coats. Do not polish.

Replacing the Powerglide Low Servo Piston

The Chevrolet Powerglide low servo piston used in present pro-

duction is made of cast iron, while the one used for replacement service is a stamped metal piston. Because of the difference in construction it is necessary that the proper return spring be used with this replacement piston. The production cast iron piston has a thicker piston head, is machined differently and requires a heavier return spring than the stamped metal one used in service replacement.

Whenever replacement is necessary, use the new stamped metal piston, part #3689820, and its new return spring, part #3689940, which are designed to be used together.

These different springs may be identified easily by comparison and should be as follows: Production cast iron piston return spring has an inside diameter of 59/64 in. and a total of 5 coils. The service stamped metal piston return spring has an inside diameter of 11/16 in. and a total of 6 2/3 coils.

Plymouth Pinion Bearing Oil Seal Lubrication

To assure smooth running-in of all parts of the rear axle pinion bearing oil seal during the initial breaks-in periods, the seal is being lubricated with an additional amount of lubrication before assembly.

It may happen that occasionally
(Continued on page 130)

53% extra recoil
capacity soaks up
the bumps and jumps
—cushions the ride
—protects the car!

BRIGGS
SHOCK ABSORBERS

with exclusive O-Ring Seal for
"the ride of your life"
on any road—in any weather!

THE BRIGGS SHOCK ABSORBER COMPANY
1523 East 45th Street • Cleveland 3
Division of The Gabriel Company



TODAY, MORE THAN EVER—

*Your NAPA Jobber
is a Good Man to Know!*

In these times, quality parts and dependable jobber service are extra important to your business. That's why—today more than ever—your NAPA Jobber ought to be your *first* source for parts and supplies.

Backing up his own broad stocks, your NAPA Jobber has the vital advantage of NAPA Warehouse Service . . . bringing *master stocks* of every NAPA line within overnight shipping distance of your shop.

The lines your NAPA Jobber stocks are *quality* lines. Many are widely used as original equipment. Every NAPA line is recognized as meeting the highest standards of genuine quality—for cars and trucks of all makes.

On every part, the NAPA Seal is a

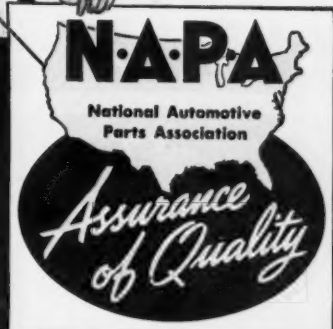
selling asset—"as advertised in The Saturday Evening Post and Collier's." And to help you cash in on NAPA's national advertising to your customers, your NAPA Jobber has valuable display material for use in your shop.

Through his affiliation with a great national business organization, your NAPA Jobber is kept up-to-date on changing conditions. He is better informed and better equipped to give you prompt, dependable service—consistently!

NATIONAL AUTOMOTIVE PARTS ASSOCIATION • DETROIT 1, MICHIGAN

N.A.P.A.

*is the largest Independent Parts
Organization in the Industry!*



Allied
A.P.C.
VALVES

American
Brakeblok

BRAKE LINDING • CLUTCH FACINGS

BALKAMP

PAINTS FOR RUM
CHERRYHILL • FLYMOUTH
AND ALL PORTLAND CEMENTS

Belden

WIRE AND CABLE

BRIDGEPORT

TIRE VALVES & ACCESSORIES

BRIGGS

WHEELS • FERRISWHEELS

BROWN LIPS

WHEELS • FERRISWHEELS

CELORON

TIMING GEARS

DETROIT

UNIVERSAL • JOINTS

DITTMER

TRANSMISSION GEARS

DUCKWORTH

TIMING CHAINS

ECHLIN

IGNITION PARTS

Federal

BALL BEARINGS

Allied
GRAPHO

WATER PUMPS
PARTS • PACKING

MARTIN-SENOUR

AUTOMOTIVE PAINTS

MicroTest

GEARS • AXLE SHAFTS

Modac

FAN BELTS AND
RADIATOR HOSE

Monmouth

ENGINE BEARINGS
VALVE PLATES & PARTS
CHASSIS PARTS

New Britain

HAND TOOLS

Allied
PRECISION

PISTON PINS

PURITAN

BRAKE FLUIDS • FLUSHING
FLUID • SHOCK ABSORBER
OIL • GREASE • BEALS •
HYDRAELECTRIC FLUID

RARITAN

ROLLER BEARINGS

Allied
RAYMOND

SAFETY SPRINGS

Soundmaster

MUFFLERS

STANDARD

GEAR RETAINERS

Spicer

UNIVERSAL JOINTS

Thomson

TERMOSTATS

TRIG

MACHINERY-OPERATED
SAFETY PRODUCTS

UNITED

FIELD • PUMP
HYDRAULIC BRAKE
SPEEDOMETER AND
BRAKE CABLES

Allied
WISCONSIN

PISTONS • SLEEVES

ZOLLNER

PISTON EQUIPMENT

Service Suggestions . . . Continued from Page 128

a slight amount of lubrication may be visible on the seal surface of the universal joint flange, but, this does not necessarily mean that the seal should be replaced.

Rattle From Transmission And Rear Engine Support

It has been found that in some cases, on Nash cars, where insuffi-

cient clearance may exist between the transmission at the drain-plug boss and the engine rear support cross member, that a distinct metallic rapping noise has resulted. This is very much in evidence in driving over rough roads and has been diagnosed as a front suspension noise in some cases.

Slotted holes in the front cross

member allow for the lowering of the member, thereby raising the rear end of the transmission and providing the necessary clearance.

Production changes will be incorporated in the rear support cross member in the near future if not already in force, which will provide the additional necessary clearance to prevent this condition.

**Make V-8 valve grind jobs Pay Off
and Get a Double Profit by Installing
JOHNSON adjustable tappets**



It's easier to sell tappets when the head is off. And you can make a double profit with less work by recommending Johnson Adjustable Tappets with your valve grind jobs. During a valve grind, lift out the old tappets and slip in Johnson Tappets. As simple as that you can make this double profit and save the hard work of grinding off valve stems.

Your customer is better satisfied because you can adjust Johnson Tappets to give him a smoother, quieter engine. Adjustment is simple. Special spanners included with each set of tappets leave both hands free to make faster, more accurate adjustments. Once you've set the patented self-locking screw, Johnson Tappets will maintain the setting.

There's more profit for you if you sell Johnson Adjustable Tappets with every Ford and Mercury V-8 valve grind. Order a supply of Johnson Tappets today.

SEE YOUR JOBBER!

"Tappets Are Our Business"

JOHNSON PRODUCTS



INC.

MUSKEGON, MICHIGAN



"No more fumbling, everything at hand."

John F. Apsey Elected President of NIAA

John F. Apsey, Jr., Advertising Manager of The Black & Decker Mfg. Co., Towson, Md. was elected President of the National Industrial Advertisers Association at the annual conference of the NIAA at the Waldorf-Astoria.

As President of the National Industrial Advertisers Association, he will head an organization of 3500 members and 33 chapters in the U. S. and Canada. The purpose of NIAA is to encourage high standards of advertising among manufacturing firms which sell their products to other than the consuming public.

Apsey has been Advertising Manager of Black & Decker, world's largest manufacturer of portable electric tools, since 1935. He has been engaged in NIAA activities for nearly 20 years and has served as national vice-president of the organization for the last two. In addition, he is a past-president of Maryland Industrial Marketers, the local chapter of NIAA.

Computing Retail Ceilings When Costs Are Changed

When increases in manufacturers' ceiling prices on new trucks, automotive parts and equipment, are granted, as was done this week in the case of certain trucks, dealers are permitted under OPS Supplementary Regulation 29 to GCPR to recompute their ceiling prices upward. The dealer can do this by applying his base period percentage markup to his new net invoice cost. The base period is December 19, 1950, to January 25, 1951.

The following example illustrates how a dealer computes his new price on a truck when the manufacturer has increased the dealer's net invoice cost with OPS approval:

Factory "base period" list price...	\$1600
Factory "base period" net invoice cost to dealer	\$1200
25 per cent dealer discount from list price (which is 33½ per cent markup)	\$ 400
Factory new net invoice cost to dealer	\$1500
33½ per cent dealer markup	\$ 500
New Factory list price	\$2000

When SR 29 was issued, OPS officials stated to NADA that a new regulation specifically covering automotive parts and equipment and another covering trucks would be issued shortly to take care of dealers when manufacturers were granted price increases. However, specific orders on new trucks and parts have not been issued so dealers now compute their prices in accordance with the above example in the case of truck price changes.

SR 29 provides that a dealer
(Continued on page 132)



Spot the Trouble—Fix It... the Quick BOWES Way!

Everything's right there—no time or space wasted. In this compact, handy *Complete Tire Repair Department* you have the Air Powered Check-N-Spect to locate the trouble . . . and . . . the Bowes Dough Boy Gun for nail holes and minor casing repairs . . . the Bowes Lectroseal for larger casing breaks. The bottom shelf takes the Chemical Tube Repair Cabinet and your tools. The spacious drawer holds a large supply of Tirerepair Sections. You turn out better and faster tire repairs this way . . . and profit by it!



This *Complete Department* will equip you to meet and cash in on the present demand for tire-saving service . . . and prove there's real money in Bowes Tire Service. Ask your Bowes "Seal Fast" Distributor, or write direct to the factory.

Show your customers you are ready for speedy service. Let them see your *Complete Tire Repair Department*. It pulls business . . . and profits!

BOWES "SEAL FAST" CORPORATION
INDIANAPOLIS 7, INDIANA

Computing Ceilings . . Continued from Page 131

must recompute his ceiling price downward if his supplier has reduced his price under this supplementary regulation. SR 29 does not apply in any way to new or used cars, used trucks, gasoline-oil or services prices which are covered by other regulations.

Relative to automotive parts and equipment, SR 29 takes dealers out

of "replacement squeezes" in which some were caught by GCPR, which froze prices at the highest delivered price in the base period of December 19, 1950, through January 25, 1951. This applies to parts ceilings of dealers whose manufacturers raised parts prices shortly before the freeze and the dealer did not mark up his prices accordingly

during the base period. The following example illustrates how the dealer computes his new price on parts when the manufacturer has increased the dealer's net invoice cost with OPS approval:

Factory "base period" list price....	\$1.00
Dealer discount 40 per cent (66% per cent markup)40
Dealer's "base period" net invoice cost60
Dealer's new net invoice cost	\$.72
Dealer's markup 66% per cent48
New list price	\$1.20

A dealer who prices under SR 29 must retain, for examination by OPS, invoices and other cost records used to determine his percentage markups. He must also retain current records to show how he arrived at his new ceiling prices. **THESE RECORDS DO NOT HAVE TO BE FILED WITH OPS BUT MUST BE RETAINED IN THE DEALER'S RECORDS.**

Automobile Makers Press For Price Relief

Passenger car manufacturers are increasing pressure against OPS for upward revision of passenger car prices. GM is the only company to agree not to ask for a price increase on the basis of the recent 4 cent annual improvement factor granted to labor. GM has not said of course, that it will not seek higher prices based on other cost increases. Ford and Packard, however, have taken the position that they will grant the wage increase, but at the same time intend to ask for higher prices on their products. All of the industry has challenged the discriminating effect of the passenger car pricing order on the basis that other industries are permitted to take into account increases in costs since the beginning of the Korean War. OPS has indicated that its 3½ per cent upward adjustment allowed March 1 is not necessarily the final determination, a hint that price adjustments may be permitted at a later date. Meanwhile, Dodge has raised truck prices 1½ to 6 per cent under CPR-30, which allows cost increases to be figured in ceiling price calculations. There was no immediate indication from other truck builders whether or not they would follow suit, although most of them have filed prices with OPS justifying higher ceilings.



RE-NU
Accurate
CLUTCH SETS
ARE
BALANCED

- **balanced**
- **matched**
- **mated**
- **tested**
- **sealed**
- **packaged**

ALL AT NO EXTRA COST!

Do a *better* clutch job in *less* time and *make more* money, too! Install the clutch set that delivers *more* miles of good clutch service. Insures satisfied customers because every set is tested for *full release* and *smooth engagement*—at the factory!

Extra Values! Your customers get a balanced Re-Nu assembly, matched and mated with a new Accurate Powerflex plate, tested *together* for release, sealed and packaged. Costs you only the *regular* price of the component parts.

WRITE FOR DETAILS

**EXCHANGED OR SOLD OUTRIGHT!
FOR ALL POPULAR CARS AND TRUCKS**



Accurate PARTS MFG. CO. 12435 Euclid Ave.
Cleveland 6, Ohio

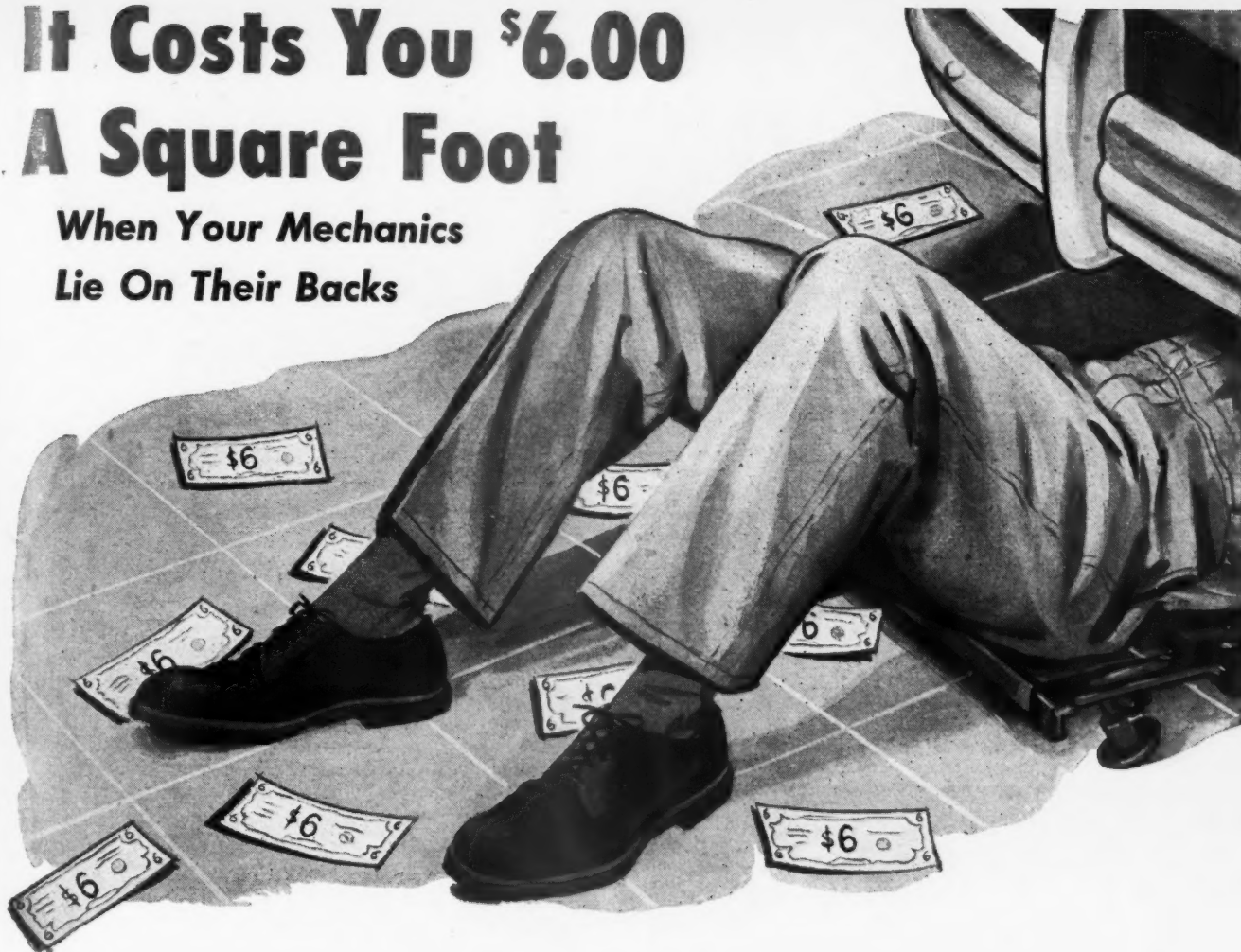
MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

REPLACEMENT UNIT CO. 1505 Rockwell Ave.
Cleveland 14, Ohio

REBUILDERS OF GUARANTEED CLUTCH ASSEMBLIES

It Costs You \$6.00 A Square Foot

**When Your Mechanics
Lie On Their Backs**



Mechanics are faster on their feet than on their backs. Time studies show that with Globe Hoists every mechanic can do 10 hours' work in 8 hours.

Figure that in terms of the extra jobs you can turn out every day. You will see why Globe Hoists quickly pay for themselves, and earn extra money for you and your mechanics.

Present users estimate that Globe Hoists are making them an additional profit of \$6.00 a square foot, or \$1200 per hoist per year. No wonder Globe Hoists are found in so many progressive shops.

GLOBE HOIST COMPANY 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa and Philadelphia, Pa.)

Write today for our **FREE** Shop Planning Service

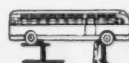
Globe makes every type of hoist, and therefore is able to advise you properly on the best hoists to meet your specific needs.

Write today for complete information. We will send you **FREE** our valuable Shop Planning Guide showing layouts of successful shops that we have helped to earn extra profits.

Write for
Shop Planning
Guide S302



GLOBE



The World's Most Complete and Versatile Line of Lifting Equipment



Packard's Programs Outlined At Dealer Advisory Meeting

Future programs aimed at Packard Motor Car Company's goals "in the competitive years ahead" were outlined at a meeting of the Packard dealer advisory council with top company executives.

The council's 19 dealer-members, representing Packard dealers throughout the U. S. and Canada, include eight newly-elected by direct balloting in their respective



40,000 Saw this performance and exclaimed "WHAT A TOW TRUCK"



Photo by Chicago Sun-Times at Soldiers' Field

WRITE US FOR FREE MANUAL ON HEAVY DUTY TOWING

JACK HEIL

Builds Truck Bodies

WORLD'S FINEST TOWING EQUIPMENT

2118 N. Clybourn Ave.

CHICAGO 14, ILLINOIS

sales-zones.

Taking part in the meeting were Hugh J. Ferry, Packard president; LeRoy Spencer, executive vice-president; Karl M. Greiner, vice-president and general sales manager, and C. E. Briggs, assistant general sales manager; G. C. Reifel, manufacturing vice-president; W. H. Graves, engineering vice-president; Hugh W. Hitchcock, director of advertising and public relations; and other administrative executives.

Greiner said that "the plans discussed with our dealer council offer a future of progress in merchandising fine cars."

He declared that the Packard dealer advisory council last November became the first in the auto industry to place membership on a directly elective basis.

Over 90 per cent of the recommendations made by the council since its inception in 1945 have either been placed in effect or are under further development.

The newly elected members, starting their year of representation this week, include:

Henry Holmes, Packard Tampa Motor Co., Tampa, Fla., for dealers in the company's Atlanta Zone; R. L. Giles, Southern Motor Co., Inc., Houston, Texas, Dallas Zone; H. H. Lorin, Lorin Packard Co., Sioux Falls, S. D., Minneapolis Zone; T. B. McGuire, T. B. McGuire, Inc., Ridgewood, N. J., New York Zone; W. A. Mooers, Mooers Motor Car Co., Richmond, Va., Washington Zone; Leland Cerruti, Leland Cerruti, Inc., San Jose, Calif., San Francisco Zone; B. H. Petersen, Motor Co., Ogden, Utah, for the Salt Lake City, Reno and Phoenix Zones; and J. G. Patterson, Packard Alberta Co., Ltd., Calgary, for all Canadian dealers.

**THE BEST
SELLS EASIEST!**

**SELL
Delco
BRAKE FLUID**



There's never a complaint from users of Delco Brake fluids. They're top quality! They're stable! They exceed every S.A.E. requirement for quality and safety. Order Delco Super 11 heavy-duty brake fluid for owners of trucks, buses and delivery units. Lay in a stock of Delco Super 9 Universal fluid for passenger car customers, now available in 8 oz. bottles. Delco's best . . . and Delco *sells!*



A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

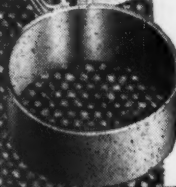
MORaine PRODUCTS

DIVISION OF GENERAL MOTORS CORPORATION • DAYTON, OHIO



**MORaine
All-Metal Gas Filters**

Install Moraine gasoline filters on your customers' cars. Seal out dirt, lint and water. They're *all* metal, even the filtering element. Order from your United Motors distributor.



**MORaine
ENGINE BEARINGS**

For satisfied customers, sell Moraine engine bearings. They're quality-made, durable—they are original equipment on GM cars and trucks, and many other popular makes. Available through United Motors distributors.

Booklet on Atomic Defense For Industrial Plants

"How To Prepare Your Plant For Atomic Attack," a 32-page illustrated booklet on industrial plant security in the atomic age, is being offered to all plants, large and small, by Walter Kidde & Company, Inc. The booklet is intended specifically for industrial management and safety personnel.

In simple language the booklet presents the latest factual informa-

tion about the atomic bomb, its destructive potential, and its limitations; a guide to plant management in organizing personnel to cope with possible plant disasters; and recommendations for strengthening plant construction and sustaining production in the face of bomb attack.

Subjects discussed and illustrated in the new booklet include Why You Must Be Prepared; The Bomb (Blast effect, radiation, incendiary effect); Plant Defense Organiza-

tion (Air raid warning, medical and first aid, fire fighting, police, salvage and repair); Shelter and Building Construction; and Planning For Sustained Production.

Copies of "How To Prepare Your Plant For Atomic Attack" may be obtained without cost from Walter Kidde & Company, Inc., Dept. A, 675 Main Street, Belleville 9, New Jersey.

The Kidde Company have not copyrighted it, purposely, in the hope that the information contained will be disseminated as widely as possible.

When you specify

AJAX JACKS

you are buying the best

Here is the complete "Coverage Line" of finest quality jacks. In this old, established line, backed by 40 years of jack-building experience, you'll find new, improved, low-cost, long-lasting, dependable lifting equipment for every service operation . . . for every passenger car and truck. Standardize on Ajax for safe, trouble-free service jacks. Sell your customers the best jacks their money can buy—Ajax.

A JACK FOR EVERY NEED

- ① **Sturdy, All-Purpose Hydraulic and Mechanical Service Jacks**
4-ton hydraulic—No. 2784
2-ton hydraulic—No. 2782
1½-ton "quick service"—No. 2767
1¼-ton mechanical—No. 2711
- ② **Adjustable Axle Supports**—No. 2799
- ③ **Portable Hydraulic Jacks**—"Series 2900"
Five Models (1½, 3, 5, 8 and 12 tons capacity) for trucks, buses and shop service.
- ④ **Passenger Car Scissors Jacks**
1½-ton Master—No. 2805
1¼-ton Utility—No. 2806

For full details on the complete Ajax "Coverage Line" see your jobber or write us for catalog.

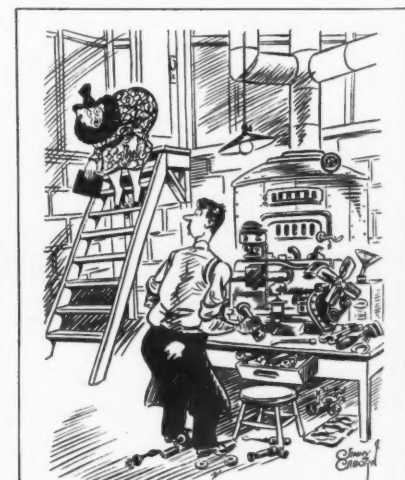
AJAX AUTO PARTS COMPANY
RACINE, WISCONSIN



AJAX—"THE COVERAGE LINE" OF FINEST QUALITY JACKS

Olds Starts Output of Rocket Order

Oldsmobile is rapidly getting into quantity production of 3.5 in. rockets, under its defense program. Tooling of the plant is nearing completion, and peak production on present schedules will be attained some time in August. Olds is turning out the high explosive anti-tank head, practice head, trap and spacer assembly, and the motor metal parts assembly. The rockets are shipped, to a government loading plant where propellant and explosive are added, and the fuse and rocket parts assembled. Ten subcontractors supply 15 of the production parts. The rocket production operation utilizes more than 100,000 sq. ft. of floor space in the plant, which formerly was used for building six cylinder engines.



" . . . George! what on earth are you tinkering with? . . . No wonder I couldn't get the car started! . . ."



Which lamp is ready to burn out?

ONE of the General Electric "All-Glass" headlamps on the test car above has just been lighted for the first time. It's at the beginning of its life. The other G-E lamp . . . the one on the left . . . has been burning day and night for many, many months. Yet when the photo was taken it was impossible to see any difference in the light output of these 2 lamps!

That's because General Electric "All-Glass" headlamps give an average of 99% as much light just before burning out as when new. Both the lens and reflector of the G-E headlamp are made of hard glass, fused together into one piece. Road and laboratory tests

prove that this one-piece unit keeps out the dirt and moisture that might otherwise gradually rob the lamp of light output.

Because they DO NOT GROW DIM, G-E "All-Glass" headlamps mean easier, SAFER night driving. Use them to replace burnouts during the summer driving months! Ask your supplier about General Electric "All-Glass" headlamps today!

**G-E "All-Glass" Headlamps
DO NOT GROW DIM!**

GENERAL  **ELECTRIC**

Chrysler "Mopar" Offers 100 Training Sessions

Chrysler Motors Parts Corporation has launched the most far-reaching training program in the company's history for the parts personnel of all Chrysler Corporation dealerships throughout the country.

The new MoPar Parts Methods and Management Conferences will last 70 weeks, include 100 separate one-week training sessions, cover

58 cities in 12 regions, and will be attended by 1,700 representatives of Chrysler, DeSoto, Dodge and Plymouth dealerships.

Purpose of the new program is to bring parts personnel up to date on the most modern methods of merchandising, management, disbursement, buying, recording and stocking.

John O. Huse, sales manager, announced that the program was developed because of the success

of 66 conferences which were held during the last two years in regions east of the Mississippi, and in which more than 1,000 dealers participated.

Three separate training units will be used to cover the country. A Southern unit will operate from August 13, 1951 to August 8, 1952. It will conduct 33 one-week conferences in 15 cities in North and South Carolina, Virginia, Tennessee, Arkansas, Mississippi, Louisiana, and Texas. H. A. Beecher will direct this unit.

The Midwest unit, with Steve L. Zeller in charge, will hold 38 conferences in 23 cities from June 11, 1951 to October 10, 1952. The unit will cover Ohio, Missouri, Oklahoma, Pennsylvania, New York, Kansas, Nebraska, Iowa, Minnesota, North and South Dakota, and Montana.

The Pacific Coast unit, directed by H. H. Hayward, will conduct 29 conferences in 20 cities from June 18, 1951 to June 13, 1952. The unit will travel Colorado, Wyoming, New Mexico, a small part of Texas, Utah, Arizona, California, Washington, and Oregon.

MoPar regional representatives are now signing up dealers who want to enroll their parts personnel in conferences scheduled for their areas.

GM Plans Experimental Gas Turbine for Bus

Although still convinced that the gas turbine for commercial truck use will not come for years, if at all, GM will build an experimental 300 hp turbine to be installed in a Greyhound bus. GM does not expect the unit to be practical, but in line with its policy of exploring long range developments in motor transportation, will carry on the experiments. High original cost and excessive fuel consumption are the two major problems to be overcome before gas turbines will be commercially feasible, according to C. N. McCuen, head of GM Research. Volume of exhaust, rather than temperature, also is a problem. The turbine under consideration, will require three sq. ft. of exhaust area. Temperatures, however, would be 300°, not too different from those in current engines.



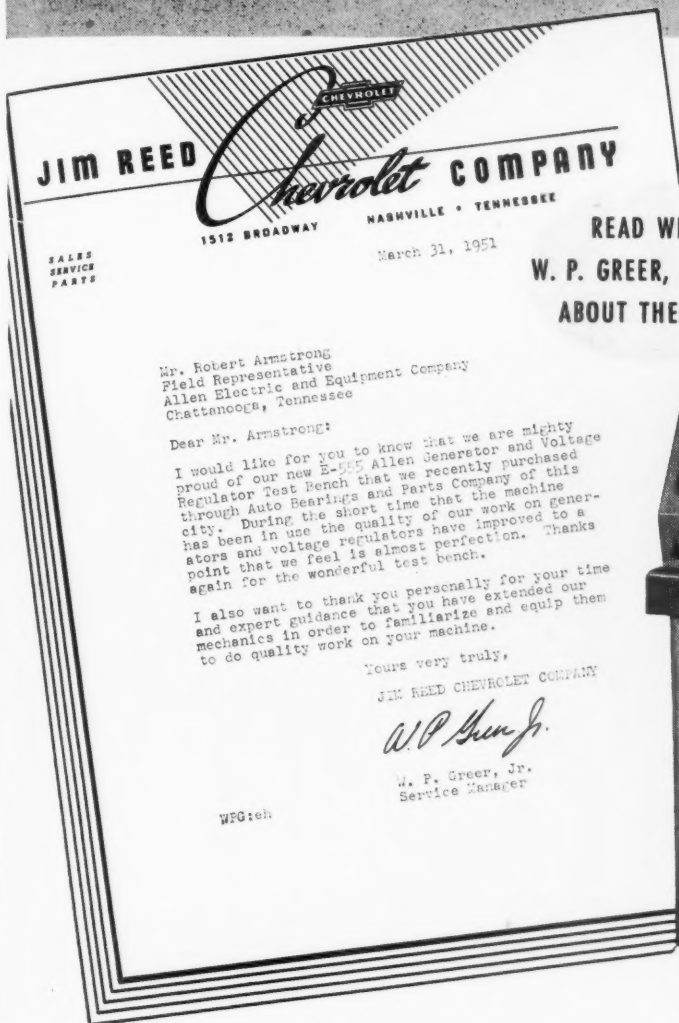
Connecting Rod Service

Check the rods on *every* engine rebuilding job! It doesn't pay to take chances with doubtful rods—an out-of-round bore or a twisted forging can ruin your best work. Federal-Mogul rebabbitted or reconditioned rods are overhaul insurance! Top quality . . . top coverage . . . prompt delivery!

FEDERAL-MOGUL SERVICE • DETROIT 13, MICHIGAN
(Division of Federal-Mogul Corporation)

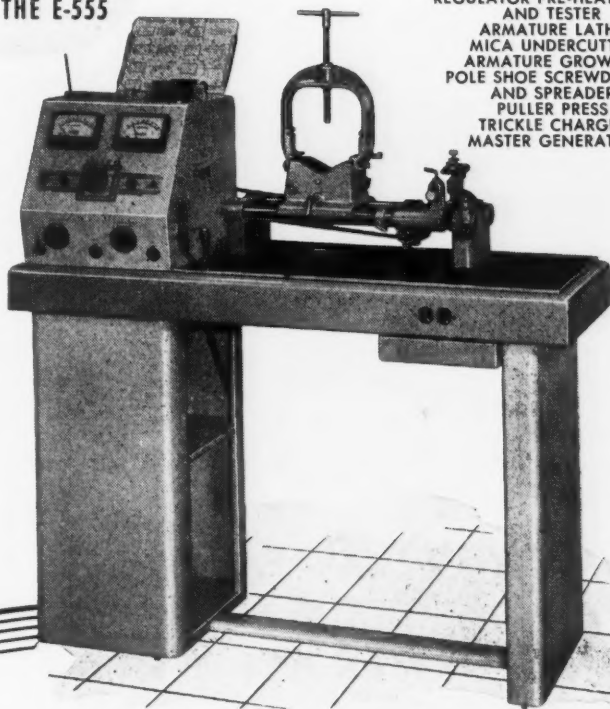
Ask your Federal-Mogul Jobber

USERS SAY: "Electrical service is faster... more profitable... with the ALLEN E-555 REGULATOR-GENERATOR SERVICER!"



Actual shop use proves the efficiency of the E-555 "packaged" Electrical Service Department! Another satisfied user says: "Generator-Regulator work now rates tops in our new, complete electrical department . . . work is easier and faster . . . we know the customer is satisfied."

THE E-555 GIVES YOU:
GENERATOR TESTER
REGULATOR PRE-HEAT OVEN
AND TESTER
ARMATURE LATHE
MICA UNDERCUTTER
ARMATURE GROWLER
POLE SHOE SCREWDRIVER
AND SPREADER
PULLER PRESS
TRICKLE CHARGER
MASTER GENERATOR



The E-555 is the only unit on the market that includes all the tools and equipment necessary to handle complete testing and repair of passenger car regulators and generators in your own shop.

Illustrated step-by-step diagrams and per-

sonalized operation instructions make it easy for your mechanics to do fast, accurate work.

COMPLETE GUIDE TO OPERATING AN ELECTRICAL SERVICE DEPARTMENT—Tells how to equip and operate a money-making department. Over 100 pages and 60 "how-to-do-it" illustrations.



ALLEN ELEC. & EQUIP. CO.
2307 N. Pitcher St.
Kalamazoo, Mich.

Please send me complete details on the E-555 Regulator-Generator Servicer, and information on the book, "How To Operate A Profitable Electrical Service Department."

NAME _____
ADDRESS _____
CITY _____ STATE _____



ALLEN
ELECTRIC AND EQUIPMENT CO.
KALAMAZOO, MICHIGAN

Bonding Brake Shoes

by Harry B. Barrett
Pres., Barrett Equipment Co.

For more than fifty years now, automotive brake linings have been riveted to shoes or bands, first with brass split rivets like the farmer used on harness. Then came the tubular brass rivet, solid aluminum rivets, and now, during the National Emergency, the only thing available is the soft steel rivet.

We were so accustomed to seeing

brake lining riveted to a brake shoe, it scared the dickens out of us to look at the first bonded shoes with no visible evidence of how the linings were held on.

Bonding, like many new, scientific innovations, got off to a bad start in the aftermarket field. It is, however, now becoming very popular due, primarily, to newly developed high-speed bonding machines, resilient, positive bonding adhesives, inexpensive bond-testing

equipment and simplified methods.

Bonding brake shoes today, using newly developed equipment, is faster and costs less than riveting.

One of the most difficult things to accomplish in bonding has been the removal of the worn out bonded lining. This is now painlessly done by carbonizing the old bond in the same machine that you bond with.

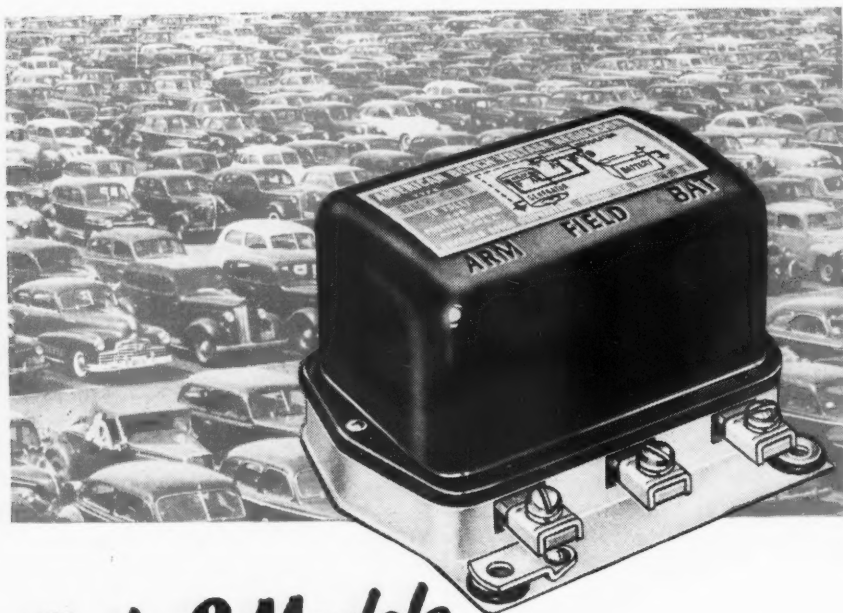
A material known as synthetic resin, in its natural form, was the material formerly used as bonding agent. This is a reasonably clear, syrupy material, somewhat resembling varnish. It is brittle in its natural form and this brittleness caused certain failures, resulting in the lining sometimes coming loose from a sudden shock or abnormal flexing of an improperly adjusted shoe on the car.

The bonding adhesives of today, with the introduction of synthetic rubber, sulphur, etc., into the resin, result in a black, rubber-like material that produces a resilient bond.

It is resistant to heat far above that encountered, even under the cost severe operating conditions. The higher grades of this material have a shelf-life, in a reasonably cool place, of 1½ to 2 years. They are not dated, and even after two years, can be renewed by the addition of an activator. It is available either in tape or liquid form.

A Chevrolet shoe with ten rivets is said to have a shear strength of approximately 5,000 pounds. The same shoe, properly bonded, will withstand 18,000 to 26,000 pounds.

(Continued on page 142)



Only 3 Models Service More Cars! **AMERICAN BOSCH GENERATOR REGULATORS**



When you stock and sell Generator Regulators bearing the American Bosch name, you can be certain you are offering your customers the best money can buy. The temperature compensated design and rugged construction of these precision, 3-element units are the result of years of experience in building millions of Regulators for original automotive equipment. Naturally, they offer many exclusive features that deliver their long service life and stability. Yet, American Bosch Generator Regulators are competitively priced for volume sales! Only 3 models cover installation requirements for most of the popular cars. Ask your Jobber!



American Bosch

MAGNETOS • GENERATORS • VOLTAGE REGULATORS • IGNITION COILS
ELECTRIC WINDSHIELD WIPERS • DIESEL FUEL INJECTION EQUIPMENT

AMERICAN BOSCH CORPORATION • SPRINGFIELD 7 • MASS.



POWERFUL CONSUMER ADS
IN "POST" AND "COLLIER'S"!



STRIKING DISPLAYS
AND POSTERS!



HELPFUL CATALOGS
AND SALES MATERIALS!



Grizzly Brings You The Liveliest Promotion in the Brake Lining Business!

Don't take *our* word for it! Compare promotions in the brake lining business and see if you don't agree that Grizzly's is the liveliest . . . the most consistent . . . and the most helpful to you! Grizzly's dramatic consumer advertising and display materials stress the *visual* appeal—so vitally important in today's stiff competition for readers' attention. And Grizzly catalogs and other sales helps are carefully planned to bring you *all* the selling information you need, presented in a clear, simple manner. Yes, Grizzly is doing everything possible to make it easier for car owners to *buy* and for you to *sell* the finest brake products made! Grizzly Manufacturing Company, Paulding, Ohio.



Bear in Mind  ask for

GRIZZLY
BRAKE LINING



"SYNCO-SETS"

For riveting. Famous for nearly 40 years for smooth, soft-pedal, safe stops. Drilled and countersunk to manufacturers' specifications. Individually boxed.

PRECISION BUILT BRAKE BLOCKS

Finished to close tolerances in every dimension, controlled throughout manufacture to assure uniform performance characteristics.

THE BEST YOU CAN SELL!



BRAKE FLUID

Meets or excels all S.A.E. standards. Chemically stable. Anti-foam. Moderate duty type for range of 300° to —80°. Heavy duty type, 325° to —60°.

"SAFTIBOND" LINING

The original lining with factory applied-bonding agent, which saves time, produces cleaner, better results, at less cost.



Bonding Brake Shoes • continued from Page 140

The lining will shear, but never the bond. Chevrolet exhibited a new car hanging from one bonded shoe.

I should like to summarize a few important points:

- (1) Bonding admittedly got off to a bad start.
- (2) Improved equipment and bonding materials have popularized this profitable new technique.

(3) It is safe. Inexpensive testing equipment is available to prove this on each shoe bonded.

(4) Don't bog down because of a past experience. Present day airplanes fly better than the first ones.

(5) Removal of the worn, bonded lining is now ac-

complished easily and quickly.

(6) High grade bonding materials are no longer dated.

(7) Squeals and brake noises are usually mechanical errors.

(8) Stop promoting the use of unbranded lining of doubtful quality on your bonded shoes.

(9) You are losing your brake lining business to competitors, particularly your dealer customer who has bonded shoes on the cars he sells and services.

(10) It is more profitable and you get plus business, as a result.

The Most Astounding Product Acceptance
IN AUTOMOTIVE HISTORY!

BUNDYFLEX

**SUPER-SOFT
COPPER-FUSED** **METAL TUBING**

FOR BRAKE LINES, FUEL LINES, OIL LINES, OIL
FILTER LINES, WINDSHIELD WIPER LINES, ETC.



**STANDARD EQUIPMENT
MORE THAN 20 YEARS**
ON PASSENGER CARS, TRUCKS
BUSES and FARM TRACTORS

**Always Better than Copper Tubing
for Repairs and Replacements**



**Easy TO BEND, FLARE,
SOLDER, BRAZE and WELD**

5 PROTECTIVE LAYERS

Continuous Double-Wall Steel Tube,
Fused Together with Copper-Steel Alloy
Binder. Copper-Steel Alloy Inside and
Outside Surfaces. No Welded Seams.

1. Copper-Steel Alloy Coat-
ing (protects outer surface)

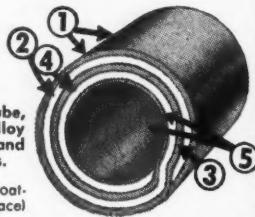
2. Outer Super-Soft Steel
Wall

3. Fused Copper-Steel Alloy
Center (unites 2 steel walls)

4. Inner Super-Soft Steel
Wall

5. Copper-Steel Alloy Lin-
ing (protects inner surface)

25-Ft. Coils: 1/8" 3/16" 1/4" 5/16" 3/8"
12-Ft. Straight Lengths: 7/16" 1/2" 5/8"



FORD
MERCURY
LINCOLN
CHRYSLER
DODGE
DE SOTO
PLYMOUTH
CHEVROLET
PONTIAC
OLDSMOBILE
BUICK
CADILLAC
PACKARD
KAISER
FRAZER
HUDSON
NASH
STUDEBAKER
WILLYS
CROSLLEY

DIAMOND-T
FEDERAL
G.M.C.
INTERNATIONAL
JEEP
MACK
REO

Standard Equipment
on Refrigeration, Air
Conditioning, Oil
and Gas Heating
and Industrial Ap-
paratus, Airplanes,
Diesel Locomotives,
etc.



EVERHOT PRODUCTS CO. 2001-9 W. CARROLL AVE.
CHICAGO 12, ILLINOIS

West Coast Warehouse 1305 South Hope St., Los Angeles 15, Calif.

Congressman Says Cars Get Spares by September

Rep. John J. Dempsey, D., N. M., said recently that the auto industry will be allowed to resume putting a spare tire on its new cars not later than Sept. 1—and credited his own new car with helping get the information.

Dempsey said he took a personal interest in the question when he bought a new car recently. He was allowed \$18 off the price because the government allows it to be equipped with only four tires. Then he had to pay the dealer the retail price of \$34.50 for a spare.

The dealer told him he had plenty of tires—he could deliver 1,000 in Dempsey's back yard by the time he got home. Dempsey blew up.

He said he had a letter from a lobbyist saying that the four-tire restriction, ordered by the government several months ago, was not intended to save rubber but to spread business around among the small tiremakers who do not supply the tires to major auto manufacturers.

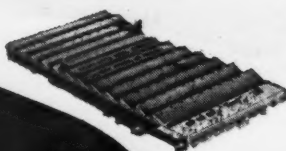
Dempsey said he called the White House and the National Production Authority and was told that the restriction would be lifted not later than Sept. 1.

He estimated that new-car buyers had to pay an extra \$110,000,000 to \$125,000,000 a year to get their spares at retail instead of at the automaker's wholesale price.



Kelsey-Hayes

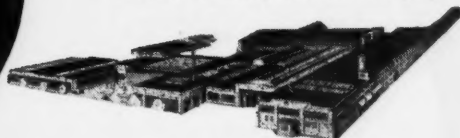
...in DEFENSE
and PEACE-TIME
production



Kelsey-Hayes
Los Angeles, Cal. Plant



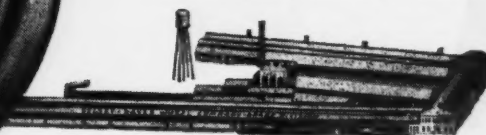
Kelsey-Hayes
Detroit, Mich., McGraw Plant



Kelsey-Hayes
Windsor, Ont., Canada Plant



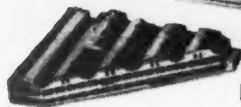
Kelsey-Hayes
Detroit Mich., Military Plant



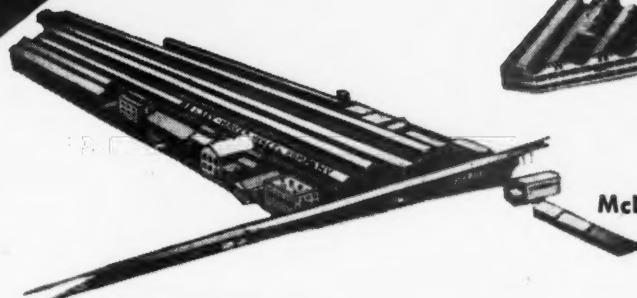
Kelsey-Hayes
Jackson, Mich. Plant



Kelsey-Hayes
Davenport, Iowa Plant



Kelsey-Hayes
McKeesport, Penna. Plant



FOR MILITARY AND CIVILIAN USE:

Wheels, brakes, hubs and drums for cars, trucks, tractors . . . and cargo trailers, troop carriers, gun carriages, tanks, etc. Electric brakes, brake power equipment, power chambers . . . and valves for all types of military and civilian vehicles. Shells and shell casings, rockets, and aircraft engine parts, etc.

KELSEY-HAYES WHEEL COMPANY

MILITARY AVE., DETROIT 32, MICHIGAN

CALENDAR OF COMING EVENTS

Aug. 13-15—Society of Automotive Engineers, West Coast meeting, Olympic Hotel, Seattle, Wash.

Sept. 16-18—28th Annual Convention, New York State Auto Dealers Assn., Sagamore Hotel, Bolton Landing, Lake George, New York.

Sept. 16-18—Annual Convention of Kentucky Auto Dealers Assn., Kentucky Lake, Gilbertsville, Ky.

Sept. 24-25—New Mexico Auto Dealers Assn., annual convention, Murray Hotel, Silver City, N. M.

Sept. 27-28—33rd Annual Convention, New Jersey Auto Trade Assn.,

Hotel Traymore, Atlantic City, N. J.

Sept. 30-Oct. 2—Auto Dealers Assn. of Alabama, Inc., annual convention, Buena Vista Hotel, Biloxi, Miss.

Oct. 1-2—32nd Annual Convention, Minneapolis Auto Dealers Assn., Radisson Hotel, Minneapolis.

Oct. 4—12th Anniversary Dinner of Automobile Old Timers, Hotel Book-Cadillac, Detroit.

Oct. 4-6—Pennsylvania Automobile Assn., annual convention, William Penn Hotel, Pittsburgh.

Oct. 5-7—Idaho Auto Dealers Assn., convention, Sun Valley.

Oct. 6-8—The South Dakota Automobile Dealers Assn., 1951 annual convention, Mitchell, S. D.

Oct. 8-12—38th National Safety Congress and Exposition of National Safety Council, Chicago.

Oct. 14-16—Tennessee Automotive Assn. Convention, Buena Vista Hotel, Biloxi, Miss.

Oct. 21-23—Florida Automobile Dealers Assn., 1951 annual convention, Tampa Terrace Hotel, Tampa, Florida.

Oct. 22-24—Automotive Trade Assn. of Virginia Convention, John Marshall Hotel, Richmond, Va.

Oct. 29-30—Annual Convention Ohio Auto Dealers Assn., Dayton-Biltmore Hotel, Dayton, Ohio.

Oct. 29-31—Society of Automotive Engineers, transportation meeting, Knickerbocker Hotel, Chicago.

Oct. 31-Nov. 1—Society of Automotive Engineers, fuels and lubrication, Drake Hotel, Chicago.

Nov. 3-6—Texas Auto Dealers Assn., Shamrock Hotel, Houston.

Nov. 5-8—Annual Meeting, American Petroleum Institute, Chicago.

Nov. 14-15—Annual Meeting of Oklahoma Auto Dealers Assn., Skirvin Hotel, Oklahoma City.

Nov. 27-29—Annual Convention of National Used Car Dealers Assn., Hotel Tampa Terrace, Tampa, Florida.

Dec. 5-7—Annual Convention Motor and Equipment Wholesalers Assn., Stevens Hotel, Chicago.

Dec. 6—Utah Automobile Dealers Assn.

Dec. 7-8—Annual Convention of Montana Auto Dealers Assn., Placer Hotel, Helena, Montana.

1952

Jan. 27-30—NADA Convention, Waldorf-Astoria Hotel, New York City.

Feb. 28-March 2—1952 Pacific Automotive Show, Pan Pacific Auditorium, Los Angeles.



Recommended by *Men Who Know!*

The men who know the importance of quality replacement parts use and recommend G-H Front End Suspension Parts, Tie Rod Ends and King Bolt Sets. Each G-H replacement part is scientifically engineered, precision built of the finest materials to give guaranteed performance. Increased sales, better profits, more satisfied customers are yours with the complete G-H "Safety Parts" line. Ask the G-H man or write us.



HERSHEY METAL PRODUCTS, INC.
Derby, Connecticut



Binks Gets Office On Long Island

Binks Manufacturing Company, makers of spray guns, spray finishing equipment, cooling towers, and spray nozzles, has established a new office at 22-01 41st Avenue, Long Island City, New York, just across the East River from Manhattan at the Queensboro Bridge.

The new quarters have 6000 sq. ft. of floor space, according to Ed Cremer, Sales Engineer and Manager of the new office.

"About 100 Motorola sales ago..."

I used to be a Doubting Thomas"

"It all started when I decided to fill out my line of accessories to include auto radios. Well, before I knew it, I let myself get hooked in on one of those 'deals' to carry a line of 'off-brand' radios. At the time, I doubted whether a well-known brand would make any difference. A radio is a radio—I told myself—they're all alike as long as they sell.

"But that was the whole trouble. *They just didn't sell.* My customers had never heard of this 'off-brand' radio... and they didn't want one in their car.

"Well, that sad and unprofitable experience removed all the doubt from my mind. I got on the phone and called up the local Motorola distributor. That was a couple of months ago... or I should say, about 100 Motorola sales ago!"

The moral of this story? Feature Motorola... for 23 years, the world's best known auto radio—and you remove all your doubts about customer acceptance. It's the name your customers *know and trust*... the name that sells!



Motorola auto radios

CONTACT YOUR NEAREST DISTRIBUTOR TODAY!

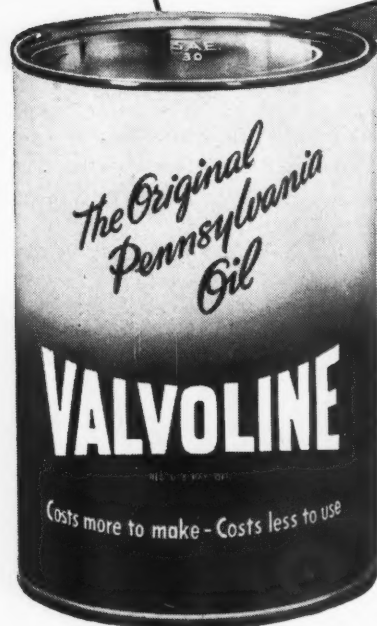
MOTOROLA INC., 4545 AUGUSTA BLVD., CHICAGO 51, ILLINOIS

1st OF THE PENNSYLVANIA OILS

*... Meets car manufacturers' requirements
for ALL MAKES and MODELS*

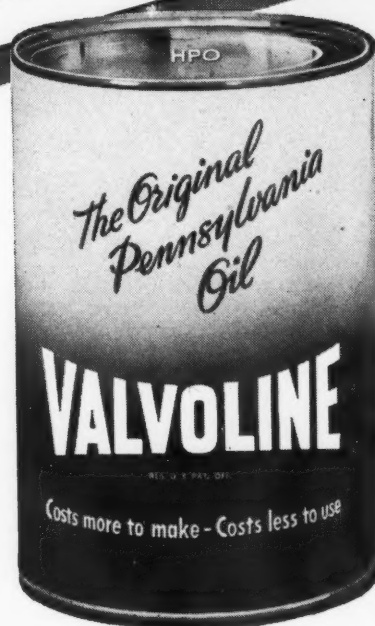
1 VALVOLINE PREMIUM GRADE

Recommended for most passenger cars and light commercial units for top performance and protection at low-cost-per-mile. Exceeds American Petroleum Institute requirements for Premium Grade Oil.



2 VALVOLINE HPO HEAVY DUTY

Especially made to meet the special requirements of a few 1950-51 model passenger cars, and for general use in motors that are given extremely hard service. Meets, or exceeds, API specifications and car manufacturers' recommendations for Heavy Duty (HD) motor oil. Look for the name "HPO" stamped on top of the can.



BOTH
are 100%
Pennsylvania

BOTH
are Time-Tested
VALVOLINE
Products

VALVOLINE

100% Pennsylvania

MOTOR OIL

FREEDOM-VALVOLINE OIL COMPANY: An Affiliate of Ashland Oil & Refining Co., Freedom-Pennsylvania
BRANCHES: NEW YORK, TORONTO, PITTSBURGH, JACKSONVILLE, ATLANTA, DETROIT, CINCINNATI, CHICAGO, LOS ANGELES, SAN FRANCISCO, PORTLAND, SEATTLE, VANCOUVER, B. C.

NEW **E**LECTRONIC BAKING PROCESS BY ARMSTRONG-VICTOR Makes Better Cork Gaskets



Here is the greatest advance in cork gasket-making since modern Armstrong cork composition was first introduced. Now fast, efficient electronic baking of cork takes the place of slow, uncertain steam curing. The result—stronger, livelier, better-sealing gaskets than ever before, with no increase in cost.

You can use these improved gaskets on jobs in your shop now. Your Victor Jobber has them in stock. Just ask for Armstrong-Victor cork gaskets in the familiar blue and yellow striped package with the label that says, "ELECTRONICALLY BAKED."



IN CONVENIENT, ECONOMICAL JOB SETS

No need to buy more gaskets than necessary for any job when you use Armstrong-Victor sets. Just name the job, the make and model, and your Victor Jobber gives you a fresh, factory-sealed package containing the necessary gaskets. No more—no less! You save time on every job when you have these precision-made for precision-fit Armstrong-Victor gaskets at your finger-tips for every assembly.

Victor Manufacturing & Gasket Co.
P.O. Box 1333, Chicago 90, Illinois

INCREASES FLEXIBILITY

Because Electronic Baking gives the cork composition greater uniformity and strength, gaskets are more pliable—easier to handle—less likely to break or crack.

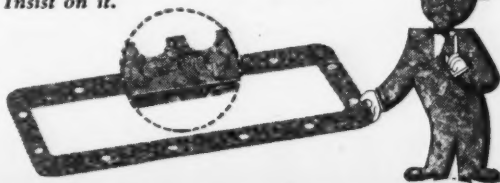
ADDS RESILIENCY

Electronic Baking prevents loss of the natural liveliness of raw cork frequently destroyed by over-curing. Gaskets retain the maximum resiliency needed for lasting sealing efficiency.

IMPROVES UNIFORMITY

Electronic Baking assures thoroughly penetrating, even heat almost instantaneously. No over-curing or under-curing. This gives the cork composition maximum uniformity—in density, strength and flexibility.

VIC CORKY SAYS: Only genuine Armstrong-Victor Replacement Gaskets have this exclusive trade-mark—the two notches. Insist on it.



Armstrong-Victor



CORK COMPOSITION GASKETS • CORK SHEETS

STOP

...and

LOOK!

Holiday reaches people with
more dollars to go places...
more cars to get there!

LISTEN!

Holiday
reaches people who are in
the travel mood... the
Holiday spending mood!



line up with **HOLIDAY!**

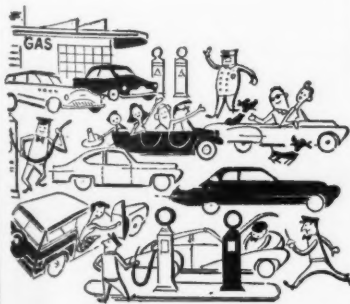
It's America's Hottest

Automotive Monthly!

There's no doubt about it! People in the Holiday mood—the mood to go places and see things—are hot for Holiday. Each month more than 3-quarters of a million Holiday-minded families are guided by Holiday magazine and the advertisers in Holiday. And what families!

- ★ **Holiday families travel far and wide when they vacation!**
(87% of them will have members away on vacation this summer!)
- ★ **There are 113 cars for every 100 HOLIDAY families.**
- ★ **Holiday families have a yearly income that's approximately three times greater than the national average!**

No wonder HOLIDAY's families constitute your hottest automotive prospects. No wonder so many automotive advertisers look to Holiday for a rich, responsive audience. If you haven't already done so, get the full details from a Holiday representative.



FREE to you in the Automotive Trade...the Great July Holiday Magazine!

See the fabulous features on such places as MICHIGAN, BAR HARBOR, the CANADIAN ROCKIES, etc., and you'll understand how Holiday promotes "travel by car" more than any other magazine—why so many automotive advertisers are now regular Holiday advertisers.

To get a FREE copy of the July HOLIDAY . . . just write for this travel-packed issue on your business stationery. Address: HOLIDAY Magazine, Independence Square, Philadelphia 5, Pa.

HOLIDAY MEANS PLEASURE AND PLEASURE MEANS BUSINESS!

Chilton Automotive Lists

CHILTON AUTOMOTIVE LISTS contain nearly 182,600 names.

More than 130,000 changes are made on these lists each year.

More than 35,000 names are dropped and added.

More than 50,000 names and addresses are changed.

Approximately 75 people work on them constantly, using every known means of mailing-list maintenance, from personal calls to clipping services.

CHILTON AUTOMOTIVE LISTS cover the major divisions of the automotive industries:

Car Dealers

Truck Dealers

Combination Car and Truck Dealers

Independent Repairshops

Automotive Wholesalers

Truck Fleet Operators

Automotive Industrial Executives

Mailings to these lists guarantee direct mail users the highest possible percentage of delivery to individuals and outlets in business today at the addresses supplied.

Such results are the reason for the almost universal use of CHILTON Daily-Corrected LISTS by large and small users of Direct Mail throughout the various branches of the automotive industries.

Write for free data file.

Direct Mail Division

CHILTON COMPANY



Chestnut & 56th Sts.

Philadelphia 39, Pa.

18,000 DEALERS
TELL YOU WHY YOU
SELL MORE...MAKE MORE

with
Rankin
 AMERICA'S FINEST SEAT COVERS!

Now you can make bigger seat cover profits than ever before with this amazing Rankin Profit Plan. 18,000 dealers are doing it, why not YOU? This sensational money - making plan gives you MORE to sell — more profits, too.

**THESE RANKIN FEATURES MEAN
 FASTER SALES — BIGGER
 PROFITS FOR YOU . . .**

At popular prices, you can offer your customers all these advantages: Smart, modern, fashion-styling. Brilliant colors. Thrilling new patterns in all the popular plaids, checks, candy stripes. Superior tailoring for smooth snug, wrinkle - free fit. Nationally advertised Lumite woven plastics, plastic coated fibres. Luxury trims, novelty trims of quilted plastic, supported plastics, rayon satin. Quality materials, quality workmanship in truly deluxe covers. And prices that put you out in front of local competition.



RANKIN SUPER
 Finest of a full line of
 quality seat covers for
 every car, every car owner.

SELL MORE, MAKE MORE THAN EVER BEFORE

CASH-IN WITH RANKIN . . . Get all the facts about this **BETTER PROFIT Rankin Plan** today. Mail this coupon for free illustrated catalog, swatches, prices, full information. See why 18,000 dealers have switched to Rankin.



RANKIN MANUFACTURING CO.
 CEDAR FALLS, IOWA
 WICHITA FALLS, TEXAS BERKELEY, CALIFORNIA

RANKIN MANUFACTURING COMPANY
 Cedar Falls, Iowa

Dept. MA

Please send prices, samples and your bigger profit plan on the Rankin Seat Cover line.

NAME.....

COMPANY.....

ADDRESS.....

CITY.....STATE.....

***You get more for your Money
in***

CHILTON'S MOTOR AGE Flat Rate & Service Manual

**You always have • You always will • Here are
the "extras" you get in the 1951 Edition**

- A separate "Quickie" Cardboard List of 72 most commonly used "Everyday" Operations.
- A larger but simpler Major List of Operations breaking down the jobs more than ever before.
- A brand new Truck Flat Rate Section. The only book of its kind with this material.
- Parts Interchangeability indicated by a Star beside the Parts Number so user can refer to Chilton's Service Handbook that contains Chilton's List of Interchangeable Parts.

**And as usual Chilton's Labor Hours—time-studied
by Chilton provide the fairest charges for the Shops**

**MORE PAGES • MORE INFORMATION
MORE PICTURES • MORE OF EVERYTHING**



RIGHT...
when you need 'em
RUGGED



DELCO HEAVY-DUTY SHOCK ABSORBERS

Built for Heavy-Duty Passenger Car Service

Taxicabs and salesmen's cars—and *all* passenger cars that must withstand rough going—need Delco heavy-duty shock absorbers. These rugged Delco shocks are specially designed and built to absorb punishment far longer . . . built to reduce wear and tear on every part of the car.

Delco shocks are precision-made . . . they smooth the ride even under severe operating conditions.

Recommend Delco heavy-duty shock absorbers for all cars used in heavy-duty service. You can replace the shock absorbers for most late-model cars—and many older models—with these new Delcos quickly, easily. No drilling or special brackets are required. Available now for 14 passenger car makes.

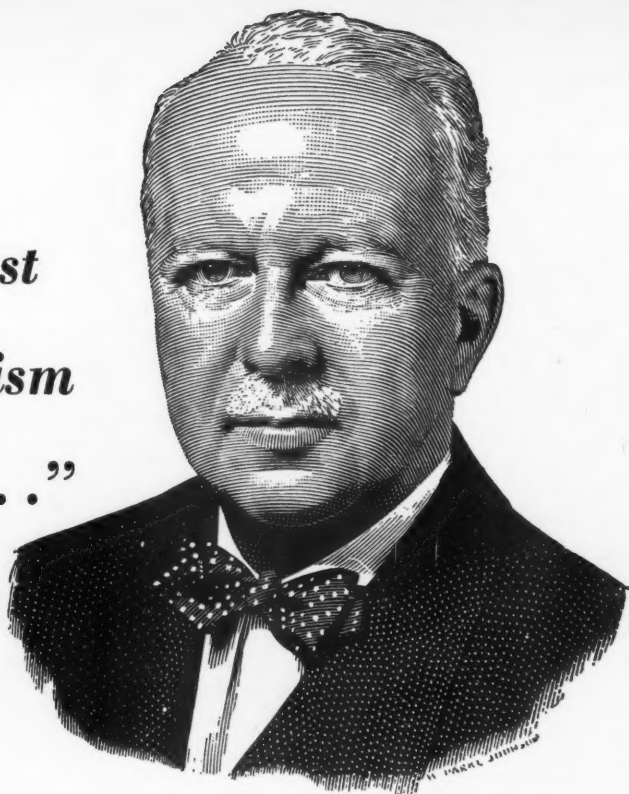


**DELCO SHOCK ABSORBERS—
A UNITED MOTORS LINE**
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Delco Heavy-Duty Shock Absorbers are packaged in pairs, for better merchandising. (Car application data on the label.)

DELCO
HYDRAULIC SHOCK ABSORBERS

*"The immunizer against
the disease of communism
is a certain feeling..."*



MR. WALTER S. GIFFORD

"It is the feeling of a man who owns a home, a bank account, an insurance policy. It is the feeling that an employee on the Payroll Savings Plan has when he gazes at his accumulation of Savings Bonds and realizes that here is palpable evidence that he has made a profit on his job—that the profit system works for him as well as for his employer."

Mr. Gifford has believed in—and worked for—payroll savings plans for thirty-seven years—since 1913, when, as Statistician of the A. T. & T., Mr. Gifford developed a payroll savings plan for the purchase of A. T. & T. stock.

In 1938, A. T. & T. employees were offered a Payroll Savings Plan for the purchase of U. S. Savings Bonds. To date, Bell System employees have invested **more than half a billion** dollars in savings bonds—with a maturity value in excess of \$675,000,000.

In upwards of 21,000 large companies, more than 8 million Americans are investing \$150,000,000 in U. S. Savings Bonds **every month**. To the systematic saving of these men and women—and the whole-hearted co-operation of executives like Mr. Gifford—is due in no small

measure the important feeling of ownership shared by the Americans who own 56 billion dollars in U. S. Savings Bonds (against 45 billions at the end of the war!).

Every Payroll Savings Plan is a reflection of the vision and enthusiasm of the top executive of the company. If he gets behind it, **personally**, employee participation is high—to the benefit of the country, the company and the employee. If the interest of the Big Boss is active—participation may very well exceed the 50% mark. The top man is the key man in a Payroll Savings Plan.

Get in touch with your State Director, Savings Bond Division, U. S. Treasury Department. He will help you put in a plan . . . or he will show you how to increase employee participation—without undue effort or high pressure tactics.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the G. M. Basford Company and

MOTOR AGE



Chilton's MOTOR AGE, JULY, 1951

LOOK for this man...

FISHEYE BLISTERBOTTOM



WANTED
in 48 States
and the District
of Columbia



Widespread reports are that a sinister character called Fisheye Blisterbottom, alias Mister Blister, alias Rusty O'Rinkle, has been causing no end of trouble in refinishing shops everywhere. Apparently, his only purpose in life is to lead car painters astray by telling them they can cut corners and get by.



Now, at last . . . Fisheye has been exposed for what he is, a wretched cad; exposed by a new defender of the refinishing profession, Pat, a genuine, imported Irish Pixie and the hero of a new full color slide film, "Pat the Pixie Painter," produced by the Rinshed-Mason Company. *Don't fail to see this film! Ask your R-M Jobber!*



Good refinishing men have gone to join their ancestors while trying to match car colors . . . like Mexicali Rose. Don't let this happen to you! Get to know Pat! He knows the answers to almost all refinishing problems . . . such as how to avoid blushing, how to avoid sagging, how to avoid Fisheye! *Tell your R-M Jobber you want to see Pat's new film! It's fun!*

"Pat the Pixie Painter" and Fisheye Blisterbottom are copyrighted by the Rinshed-Mason Company, 5935 Milford Ave., Detroit 10, Mich., and 1244 N. Lemon St., Anaheim, Calif.

Get ACTION

...when you want it!



Give instructions, get information *instantly* with Executone Intercom!

You'll be amazed at the way Executone speeds up production—helps you get more work done *faster*!

Executone lets you TALK to employees or associates instantly, anywhere in office or plant. No waiting on busy phones. No running back and forth hunting for "lost" personnel. *You get action right now!*

World's Most Advanced Intercom!

With Executone, voices are distinct, clear, instantly recognizable. Exclusive "CHIME-MATIC"® signalling announces calls by chime and signal light.

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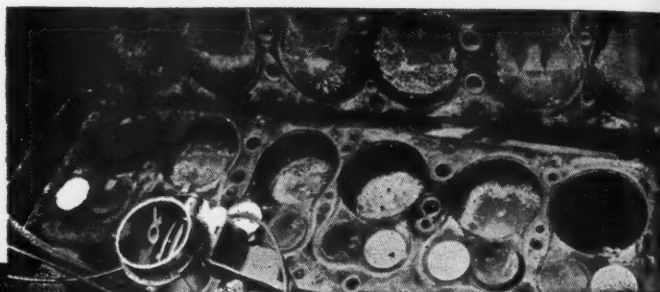
A threat that some half-billion or more in new taxes may have to come out of their pockets hangs over the heads of automobile and truck operators as Congress faces the problem of raising about \$7 billion in new tax revenue.

Administration proposals to boost the excise tax on motor vehicles from the present 7 per cent to 20 per cent, appears to have no chance of enactment. A boost to about 10 pct, however, seems to be

in prospect. And proposals for revival of the "use" tax of \$5 per vehicle, so unpopular during war-time and repealed in 1945, has received practically no consideration.

It is more likely that the present 1½ cents per gallon federal gasoline tax would be increased to 2 cents per gallon. The Administration had asked a doubling to a 3 cents per gallon. Also, Congress is inclined to approve an increase in the excise levy on automotive parts and accessories from the present 5 per cent to perhaps 8 per cent.

In 1926 -
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Ratio—4 to 1
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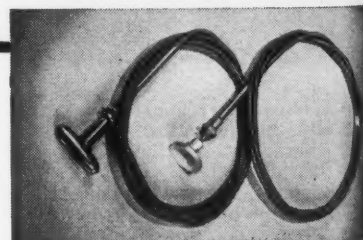
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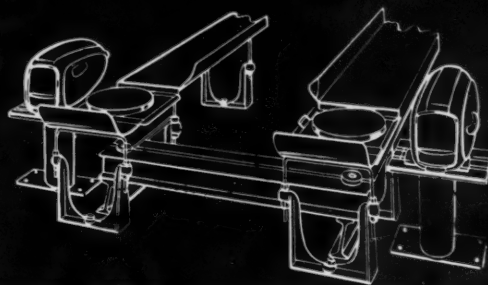
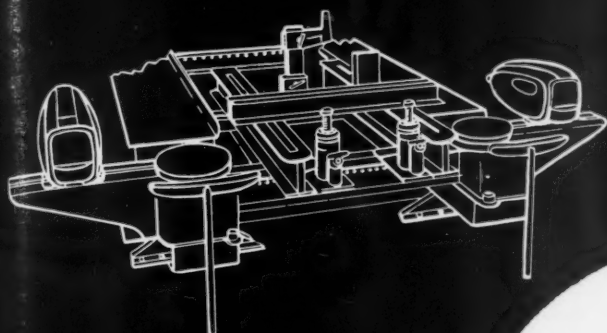
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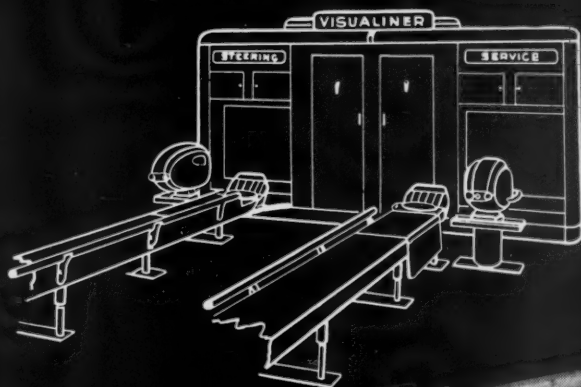
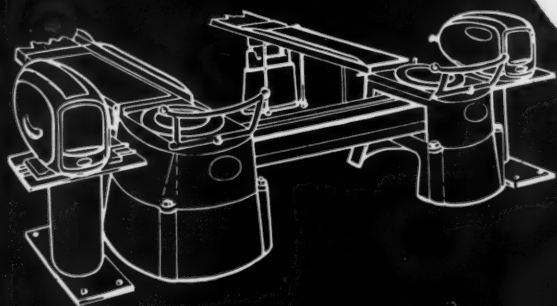


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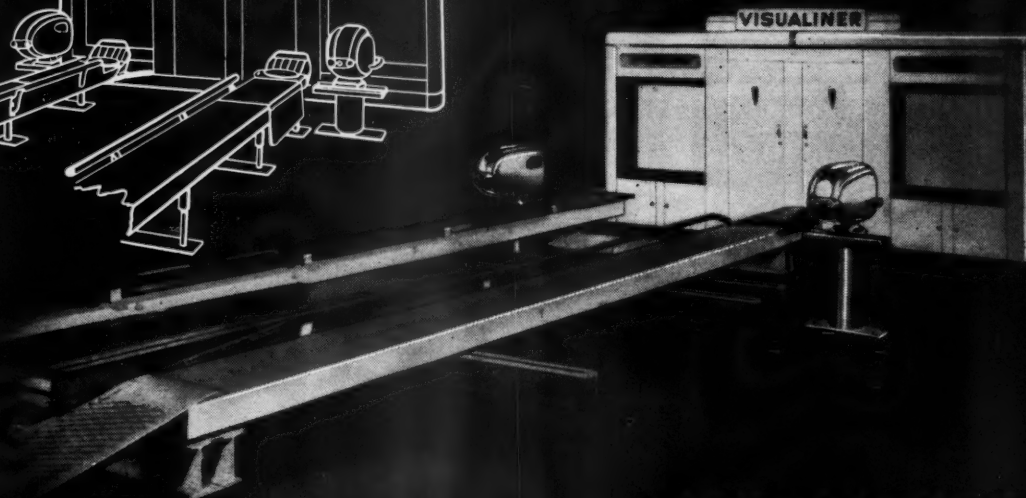
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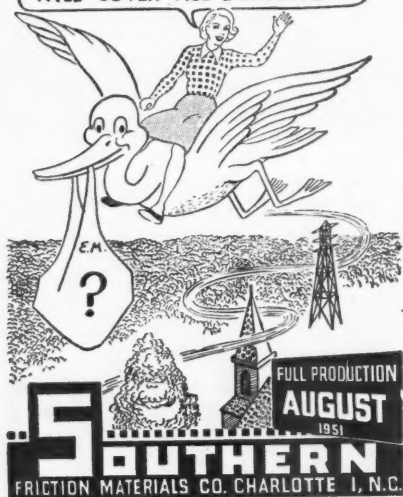
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2. Pick up or deliver shipments to bus depots.
3. Deliver merchandise which has been especially ordered for your customer and has not "come to rest."
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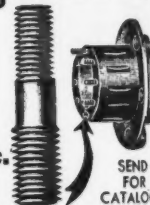
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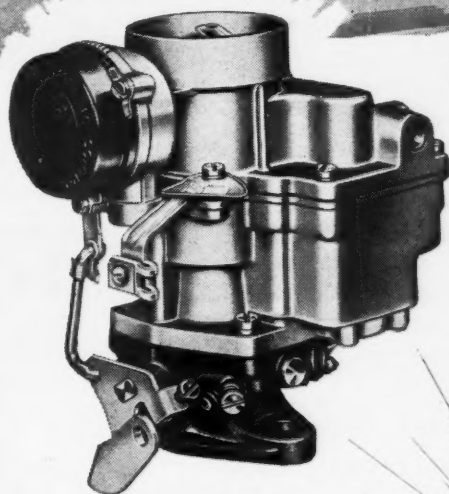
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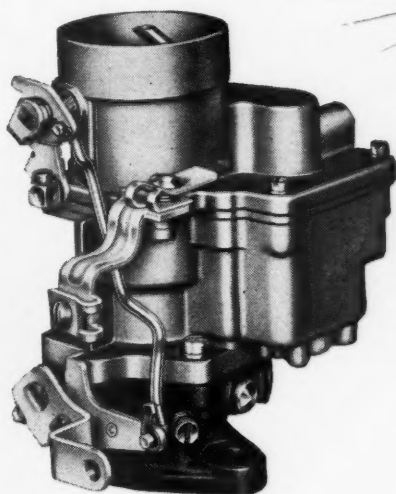
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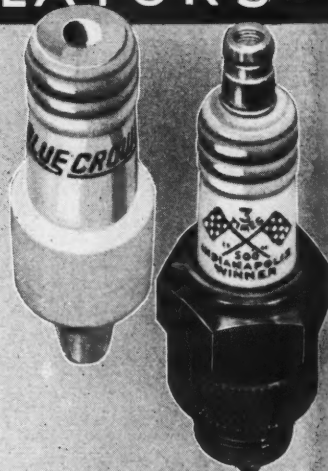
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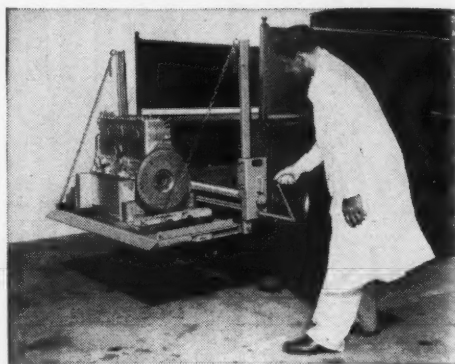
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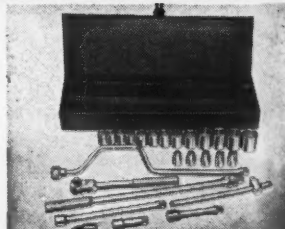
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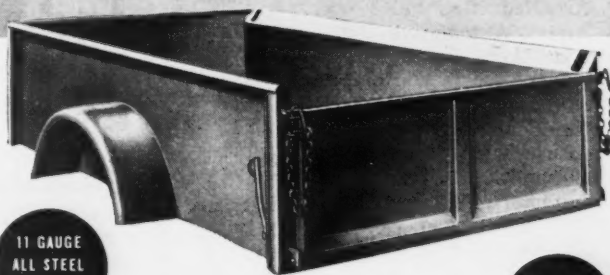
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Chilton's MOTOR AGE, JULY, 1951

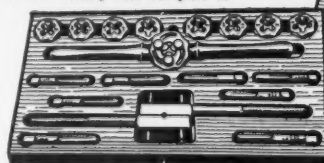
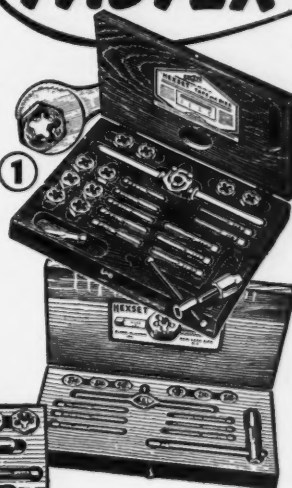
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Index to Advertisers

This Advertisers' Index is published as a convenience, and not as part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.



AC Spark Plug Div.....80-81
Accurate Parts Mfg. Co..... 132
Air Reduction Sales Co..... 122
Airtex Automotive Div..... 76
Ajax Auto Parts Co..... 136
Allen Electric & Equip. Co... 139
Aluminum Co. of America... 89
American Bosch Corp..... 140
Armstrong-Victor 147
Automatic Steel Products, Inc. 96
Automotive & Marine Products Corp. 156
Autopulse Corp. 88

Bean Division, John..... 157
Bendix Products Div..... 163
Blackhawk Mfg. Co.....15-82-83
Bonney Forge & Tool Works 85
Borg-Warner Corp. 127
Bowes Seal Fast Corp..... 131
Breeze Corporations, Inc.... 160
Briggs Shock Absorber Co... 128
Buckingham Mfg. Co., Inc... 160
Burd Piston Ring Co..... 72

Carter Carburetor Corpora-
tion 159
Central Tool Company, The.. 110
Champ-Items, Inc. 158
Champion Laboratories, Inc.. 112
Champion Spark Plug Co....32-33
Chevrolet Motor Div..... 99
Chilton Co. (Direct Mail)... 150
Chilton Flat Rate & Service
Manual 152
Chrysler Corp. 9
Chrysler Motors Parts Corp.. 79
Classified Advertisements ... 158
Cleveland Graphite Bronze Co. 84
Commercial Credit Corp..... 115
Commercial Trades Institute.. 158
Convento Mfg. Co..... 163
Crescent Company, Inc., The.. 158
Curran Corp. 162
Curtis Pneumatic Machinery
Div. 24

Delco Products Div..... 153
Delco-Remy Div. General Mo-
tors Corp. 4
De Vilbiss Company, The... 119
Direct Mail, Chilton Co..... 150
Ditzler Color Div..... 105
Dura-Bond Bearing Co..... 114
Durkee-Atwood Co. 117

Electric Auto-Lite Co., The
12-13-22-23-75
Ethyl Corporation 11
Everhot Products Co..... 142
Executone, Inc. 156

Federal-Mogul Service6-138
Federated Metals Div. 25
Fitzgerald Mfg. Company... 123
Ford Div. Ford Motor Co.... 91
Fox Products Company 78
Freedom-Valvoline Oil Co... 146
Frenchtown Porcelain Co.... 160

General Electric Co. 137
Globe Hoist Co..... 133
Grey-Rock Div. Raybestos-
Manhattan, Inc. 10
Grizzly Mfg. Co..... 141
Guide Lamp Div..... 97
Gumout Div. Pennsylvania Re-
fining Company108-109

Hastings Mfg. Co.....2nd Cover
Heil, Jack 134
Heller Brothers Co..... 106
Herbrand Tools 126
Hershey Metal Products, Inc.. 144
Holley Carburetor Co..... 95
Holiday Magazine148-149
Hollingshead Corp., R. M.... 158
Homestead Valve Mfg. Co... 166

Johnson Bronze Co..... 90
Johnson Products, Inc..... 130

K-D Manufacturing Co..... 165
Kelsey-Hayes Wheel Co..... 143
Kem Mfg. Co., Inc..... 116
Ken Tool Mfg. Co., The.... 158
King Electric Equipment Co. 104

McQuay-Norris Mfg. Co.....92-93
Marsh Wall Products, Inc.... 124
Mechanics Co-op 162

Minnesota Mining & Mfg.
Co. 27
Monroe Auto Equipment Co... 101
Moog Piston Ring Co..... 5
Moraine Products Div..... 135
Motorola, Inc. 145

National Air Sander Inc..... 94
National Automotive Parts
Assn. 129

Pedrick Piston Ring Div..... 8
Pennsylvania Refining Co..108-109
Perfect Circle Corp..... 67
Perfection Gear Co..... 125
Permatex Co., Inc..... 1
Postma Mfg. Co..... 163
Prest-O-Lite Battery Co., Inc.
17-18-19-20

Pure Oil Company 111
Purolator Products, Inc..... 35

Ramsey Corporation....3rd Cover
Rankin Mfg. Co. 151
Raybestos Div., Raybestos-
Manhattan, Inc. 7
Rinck-McIlwaine, Inc. 163
Rinshed-Mason Co. 155
Rochester Products Div..... 107
Rust Master Chemical Co.... 160

Salsbury Corporation 100
Saturday Evening Post..... 21
Schrader's Son, A..... 73
Sealed Power Corp.....36-65
Service Spring Co..... 158
Skillsaw, Inc.102-103
Snap-on Tools Corp..... 77
Southern Friction Materials
Co. 158
Standard Motor Products, Inc. 34
Storm-Vulcan, Inc. 118
Studebaker Corp. 63
Sun Electric Corporation.... 158
Sun Oil Co..... 16
Sunnen Products Co..... 87
Superior Screw & Mfg. Co.,
Inc. 156

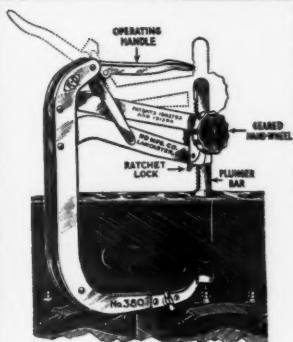
Texas Company, The..... 2
Thermoid Company
86-Back Cover
Timken Roller Bearing Co.,
The 26

U. S. Axle Co., The..... 162
U. S. Industrial Chemicals,
Inc.120-121
United Motors Service..... 161
United States Treasury..... 154
Upholstery Leather Group, The 14

Van Dorn Electric Tool Co... 71
Ven Corp., The 162
Victor Manufacturing & Gas-
ket Company 147

Wagner Electric Corp..... 113
Walker Mfg. Co. of Wis.....30-31
Weller Electric Corp..... 98
Wilkening Mfg. Co..... 8
Willard Storage Battery Co..28-29
Wiry Joe 158
Wittek Mfg. Co..... 162
Wix Accessories Corp..... 69
Wolf's Head Oil Refining Co.. 158
Wood Co., Frank N..... 74

Time savers • Finger savers



380 COMPRESSOR

Serves nearly all L-head, valve-in-head motors, old or new. Exclusive automatic depth adjustment and quick operating handle make it fast, easy to use.

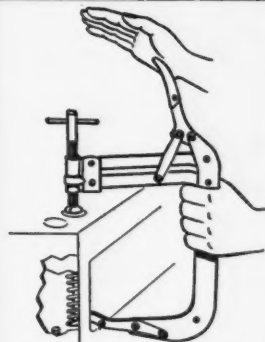
918 Puller



917 Driver

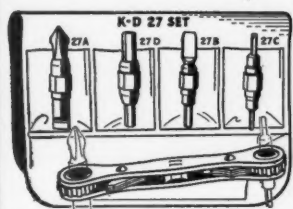
920 SET FOR FORDS

Service Ford-built V-8s from '32 to date (except 60 & 150 hp) with this Valve Guide Puller Set. Pulls assemblies fast, no matter how tight they're stuck.



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Serves all models Chevrolet. Adaptable to other overheads including Buick & Wisconsin Motors (VE4, VF4, AB, AK) and other industrials, also L-heads with manifolds off.



Fits all 4 types + + - -

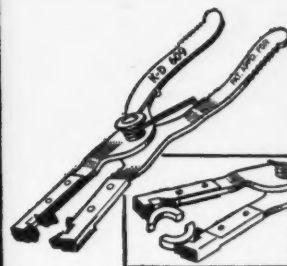
OFFSET RATCHET BIT SET

A 3 7/8" long double end ratchet wrench with 8 bits. One for Phillips, Reed & Prince Screws Nos. 0-12. 5 bits for hex keys, sizes 5/64" to 3/16". 2 bits for standard screw slots. K-D No. 27.



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Deluxe auto clothes hanger. Every motorist a prospect for a pair. Ready to use... no bolting or assembling. Spill-proof, rustproof. 12 on display, nice profit returns.



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K-D 609. Specially designed to handle split collar type keepers on Ford Trucks 8EQ, 8MTH and other motors using free type valves. Self supporting. Only tool available for the job!

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K-D® TOOLS

K-D MFG CO LANCASTER, PA.

first in the world *first* the world over

as simple as its
starting steps :

1

turn on switch

2

open fuel valve

3

turn on solution
valve



ten times faster than any other cleaning method

Simple to start as 1, 2, 3 . . . as *simple* to use as a garden hose . . . Hypressure Jenny—the world's first and leading steam cleaner—is ready to go to work on any type of cleaning job in only 90 seconds from a stone-cold start. With automatic electric-spark ignition, there is no long warm-up period . . . no vexing adjustments. Just start and clean, anytime, anywhere—*10 times faster, and better than you can do it by hand.* After starting, Hypressure Jenny can be controlled—turned on or off—right at the point of cleaning . . . 100 feet from the unit if necessary.

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HOMESTEAD VALVE MANUFACTURING COMPANY

Serving since 1892

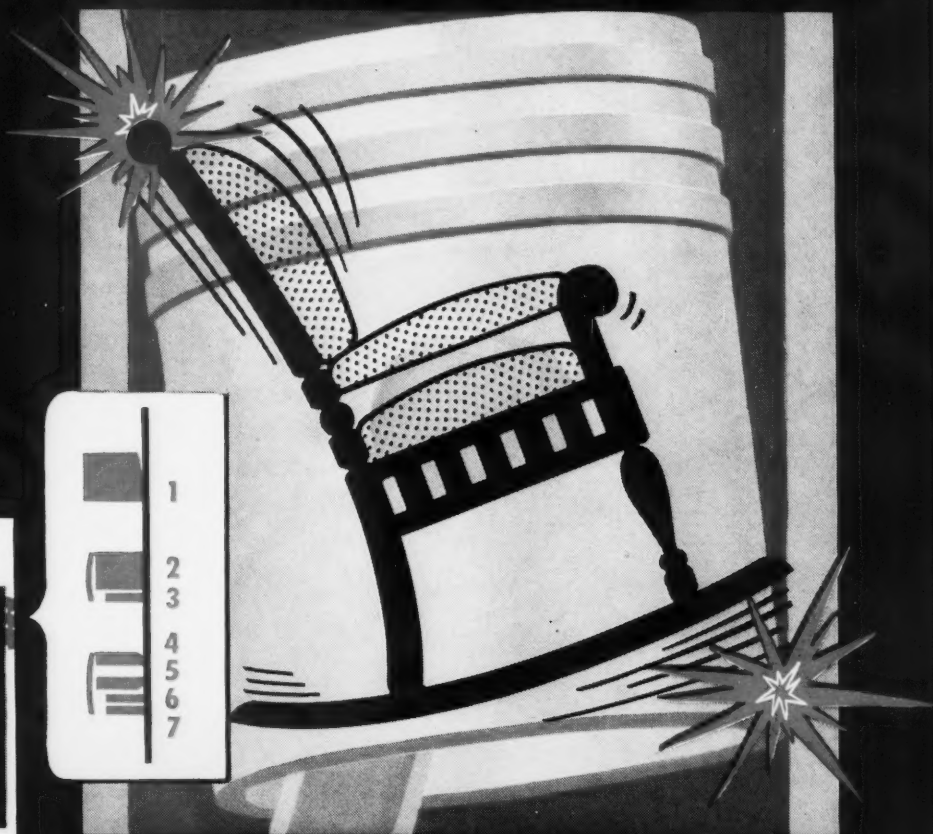
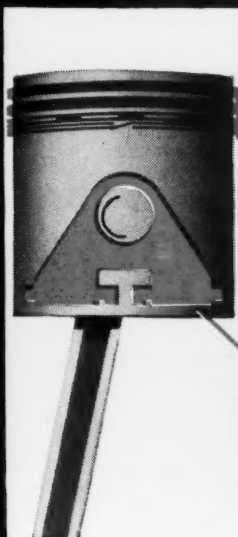
P. O. BOX 95

CORAOPOLIS, PA.

Correct Piston Rock

and stop premature engine wear, too!

THE RAMCO
MULTIPLE
CONTACT METHOD
PUTS 7
BEARING CONTACTS
ON CYLINDER WALL
TO STABILIZE
PISTON



When skirts are collapsed the Ramco Method employs RAMCO PISTON SKIRT STABILIZERS that permanently correct for collapsed skirts by placing pressure at right angles from the wrist pin.

by correcting "Rocking Chair Action"

with multiple contacts instead of pressure...

RAMCO ACTUALLY CURBS WEAR

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"Why I changed my serviceman"

By a Disgruntled Car Owner

"I had just had the old bus serviced—and we were off for a picnic at Silver Lake—happy as kids on circus day. There we were, driving down a lonely road—ten miles from a service station—when the fan belt went blooie! Our holiday was shot to Halifax. You ask me why I changed my serviceman?"



Was This One of Your Customers?

...or do you always replace the fan belt before it fails?

Do you check the fan belt every time you service a car? Do you make *sure* it won't let your customer down?

Remember, everything hangs on the fan belt—the cooling, ignition and lighting systems. You don't save your customer anything by postponing the replacement of his fan belt, because it's bound to break—and he will blame you.

Make your replacements with Thermoid Fan Belts. They are "a horse of a different color." Thermoid Fan Belts are

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Automotive engineers advise playing safe by replacing fan belts every two years, or every 20,000 miles.



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